

TOWN OF IROQUOIS FALLS devonshire park improvements

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- L2 - Site Layout and Grading Plan
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- E03 - Enlarged Plan, Partial Single Line Diagrams, Details and Schedules
- E04 - Water Feature Pad Bonding, Specifications and Details

ISSUED FOR TENDER

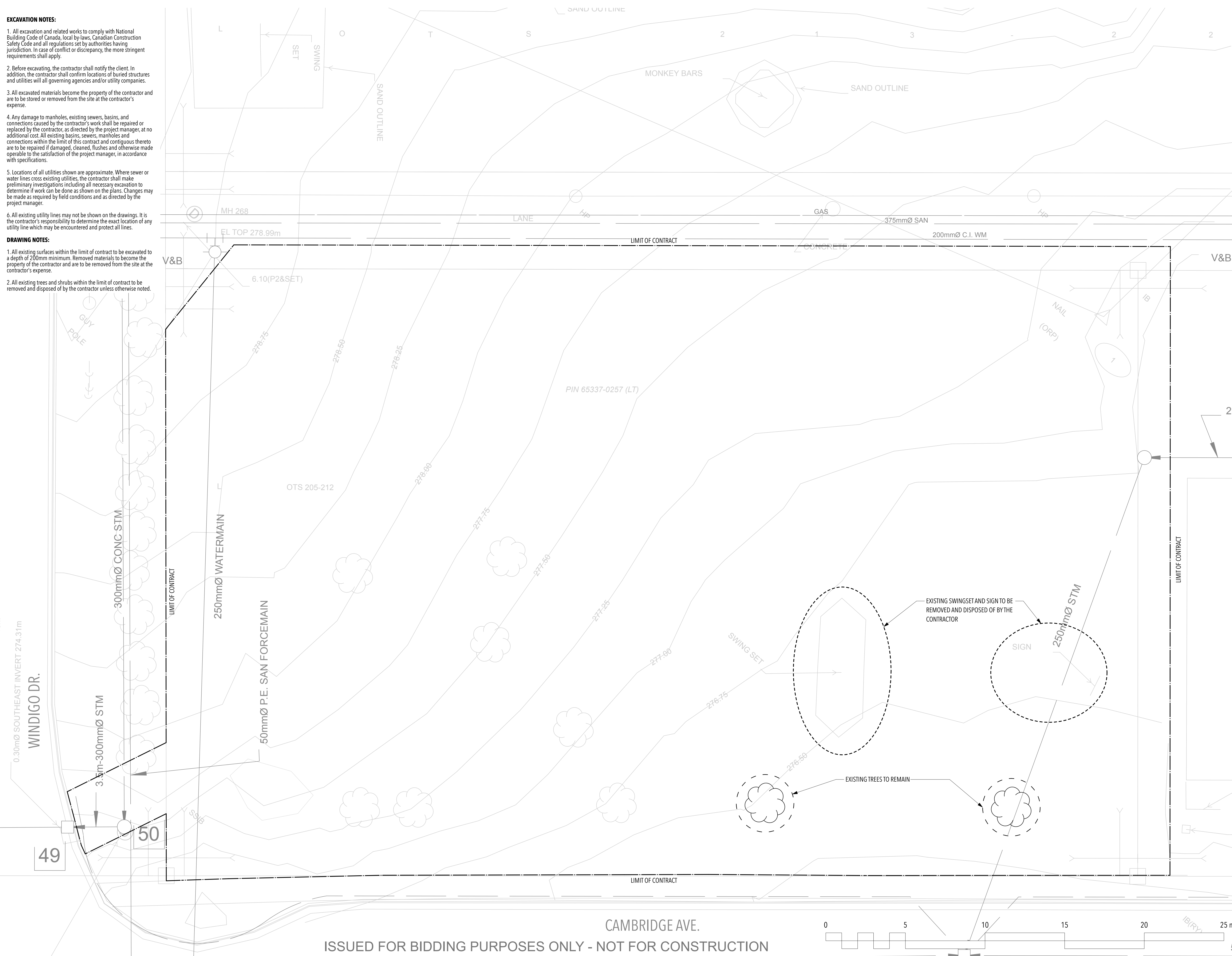


EXCAVATION NOTES:

1. All excavation and related works to comply with National Building Code of Canada, local by-laws, Canadian Construction Safety Code and all regulations set by authorities having jurisdiction. In case of conflict or discrepancy, the more stringent requirements shall apply.
2. Before excavating, the contractor shall notify the client. In addition, the contractor shall confirm locations of buried structures and utilities will all governing agencies and/or utility companies.
3. All excavated materials become the property of the contractor and are to be stored or removed from the site at the contractor's expense.
4. Any damage to manholes, existing sewers, basins, and connections caused by the contractor's work shall be repaired or replaced by the contractor, as directed by the project manager, at no additional cost. All existing basins, sewers, manholes and connections within the limit of this contract and contiguous thereto are to be repaired if damaged, cleaned, flushes and otherwise made operable to the satisfaction of the project manager, in accordance with specifications.
5. Locations of all utilities shown are approximate. Where sewer or water lines cross existing utilities, the contractor shall make preliminary investigations including all necessary excavation to determine if work can be done as shown on the plans. Changes may be made as required by field conditions and as directed by the project manager.
6. All existing utility lines may not be shown on the drawings. It is the contractor's responsibility to determine the exact location of any utility line which may be encountered and protect all lines.

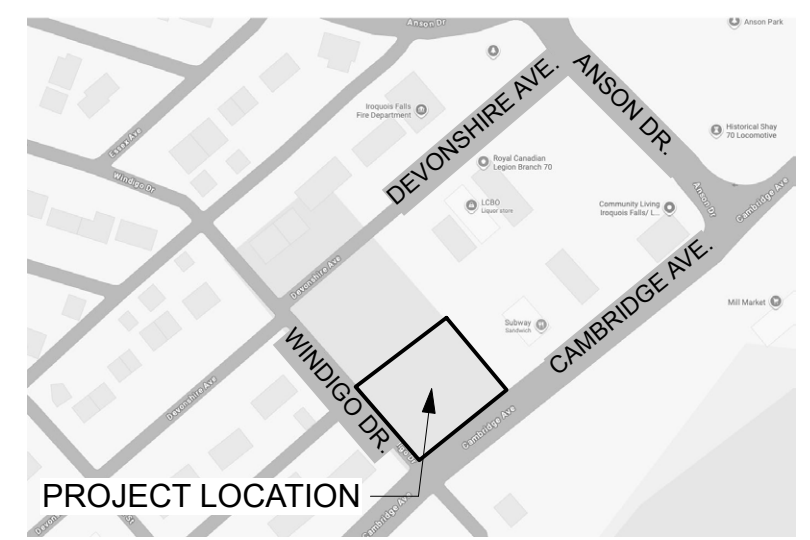
DRAWING NOTES:

1. All existing surfaces within the limit of contract to be excavated to a depth of 200mm minimum. Removed materials to become the property of the contractor and are to be removed from the site at the contractor's expense.
2. All existing trees and shrubs within the limit of contract to be removed and disposed of by the contractor unless otherwise noted.

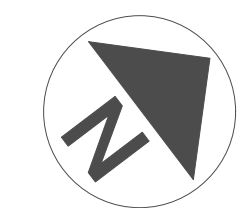


ISSUED FOR BIDDING PURPOSES ONLY - NOT FOR CONSTRUCTION

Client: THE TOWN OF IROQUOIS FALLS



DEVONSHIRE PARK PLAYGROUND
 Iroquois Falls, ON



Drawing Name: **EXCAVATION AND DEMOLITION PLAN**

No.	Revision	Date
1	Issued for tender	June 12, 2026

Scale: 1:100	Date: May 2026
Drawn by: NM	Checked by: JWS
Approved by:	Dept. Approval:

Stamp: Drawing No. **L1**

LEGEND

- LIMIT OF CONTRACT
- SAFETY ZONE
- SPLASH ZONE
- ASPHALT
- CONCRETE
- ARTIFICIAL GRASS
- TOPSOIL AND SOD
- PLANTING BED
- TAILINGS
- NEW LIGHT POST

TOPSOIL AND TURF:

1. Contractor to place topsoil to specification in all areas within project limit of contract unless otherwise approved by the Landscape Architect.

2. All turf area topsoil to be 150mm (6") deep after settling within contract limit. Topsoil to be imported non-compacting sand 7 soil mixture suitable for a formal landscape setting. Friable loam shall contain a minimum of 4% organic matter for clay loam and 2% for sandy loam to a maximum of 20% by volume, and having a pH of 6.0 to 7.0. Topsoil shall be free of admixture of subsoil, refuse, roots, stumps, sod, and stones larger than 20mm. The contractor must submit an original copy of a N.B.D.A.F.A. Provincial Soils Lab full spectrum soil analysis report and acquire acceptance from the Landscape Architect for topsoil prior to placement on site.

3. Fertilizer shall be complete commercial, specially blended for promoting root development of newly seeded or sodded areas, Scotts Turfbuilder, Nutrite Nutri S Starter Fertilizer, Nu-Gro Turf Starter or approved equal, with a formulating ratio of 2:4:1 80% SCU for spring and early fall planting (6-12-3)

ASPHALT NOTES:

1. SUBGRADE: Granular fill as needed for stability and slope.

2. BASE COURSE: A minimum of 200mm (8") dense graded 0-31.5mm (3/4") minus granular 'A' properly compacted to 100% S.P.D. Contractor to obtain Landscape Architect's approval of subgrade before placing granular base. Finish tolerance +/- 1" in 10' (95% minimum of laboratory density).

3. BINDER OR LEVELING COURSE (Hot Mix Asphalt): The binder or leveling course shall be a minimum of 50mm (2") thick. The surface tolerance after completion shall be +/- 1/4" in 10'.

Sieve Sizes:

Square Openings	Percentage Passing
1"	100
3/4"	90-100
3/8"	65-80
#4	46-60
#8	35-45
#30	17-29
#200	2-7
A.C. (% of mix)	5.5-7.5

4. SURFACE COURSE (Hot Mix Asphalt): The surface course shall be a minimum of 25mm (1") thick. The surface tolerance after completion shall be +/- 1/8" when measured in any direction with a 10' straight edge.

Sieve Sizes:

Square Openings	Percentage Passing
1/2"	100
3/8"	90-100
#4	63-78
#8	50-60
#30	25-42
#200	3/8
A.C. (% of mix)	7.5-9.5
A.C. 20 or 30	

Voids content less than 5%.

5. Install asphalt surfacing in strict accordance with all applicable codes and regulations. Asphalt to be installed in two lifts. Lift one shall be 50mm of Type B (18.75mm mix) asphalt. Lift two shall be 25mm of Type D Asphalt (9.4mm mix) for a total of 75mm total compacted depth.

6. All equipment, materials and methods of mixing, hauling, handling, spreading, and rolling shall meet best trade practices.

7. Place asphalt courses only when the temperature at surface is a minimum five (5) degrees Celsius and rising. Suspend paving operations when the temperature drops below the minimum specified above.

8. Place both lifts one after the other to ensure seams are flush and in no way impact playing conditions. Do not stack cold joints.

9. Compaction of asphalt mixtures shall be carried out as soon as possible, after spreading of the mixture, as it will bear the roller without checking or undue displacement.

10. Start rolling operation parallel to the centreline, at the lower side and proceed towards the centre of the pavement course, overlapping on successive trips by at least half the width of the rear wheel. Alternate trips of the roller shall be of slightly different lengths and shall be staggered.

ASPHALT NOTES CONTINUED:

11. Finish rolling shall be accompanied with a minimum number of passes, producing a satisfactory surface.

12. Start finishing rolling longitudinally at the higher edge and proceed towards the lower edge. Final rolling and exiting of machinery shall occur outside of playing area.

13. Use hot tampers for hand tamping asphalt edges, adjacent to curbs, catch basins, manholes, fences, and similar structures and in all areas which cannot be covered with a roller.

14. Finished pavement shall be smooth, true to the line and level and free from depressions exceeding one quarter inch, (3.13mm), as measured with a three metre, (3m), straight edge paralleling the centreline. This includes seams between courses of asphalt.

15. Low or defective areas shall be cut out immediately and replaced with fresh, hot mixture, placed and compacted to blend with surrounding areas, at the contractor's expense, and thoroughly bonded to it.

REINFORCED CONCRETE NOTES:

1. All concrete work shall be to the requirements of CAN/CSA A23.1-04/A23.2-04/A23.3-04 except as

2. CONCRETE MIXES

- Exterior Concrete
- Exposure Class C-1
 - Min. Compressive Strength @ 28 days: 35MPa. (5076 PSI)
 - Air Content: 5%-8%
 - Concrete Slump: 80mm±30mm
 - Max. Aggregate: 19mm
 - Water Cement Ratio: 0.40

3. Admixtures - obtain engineers approval before using admixtures.

4. No concrete shall be placed without prior knowledge and approval of the structural consultant.

5. Reinforcing steel, embedded parts, anchor bolts, dowels, water stops, etc., shall be secured in position prior to placing concrete.

REINFORCING STEEL NOTES:

1. Bars - to CAN/CSA-G30 18-09 grade 400 MPa

2. Concrete cover for reinforcement: 30mm min.
a) Concrete poured against ground shall be 75mm min.
b) 15M bars or smaller shall be 40mm min.

3. All splices shall be class 'C' tensions lap splices. No more than 50% of the reinforcing shall be spliced at any given location.

SLAB FINISH NOTES:

1. Concrete slab finish to be smooth trowel finish with consistent surface. No surface linear variation to occur greater than 3mm over a 1 meter straight stick.

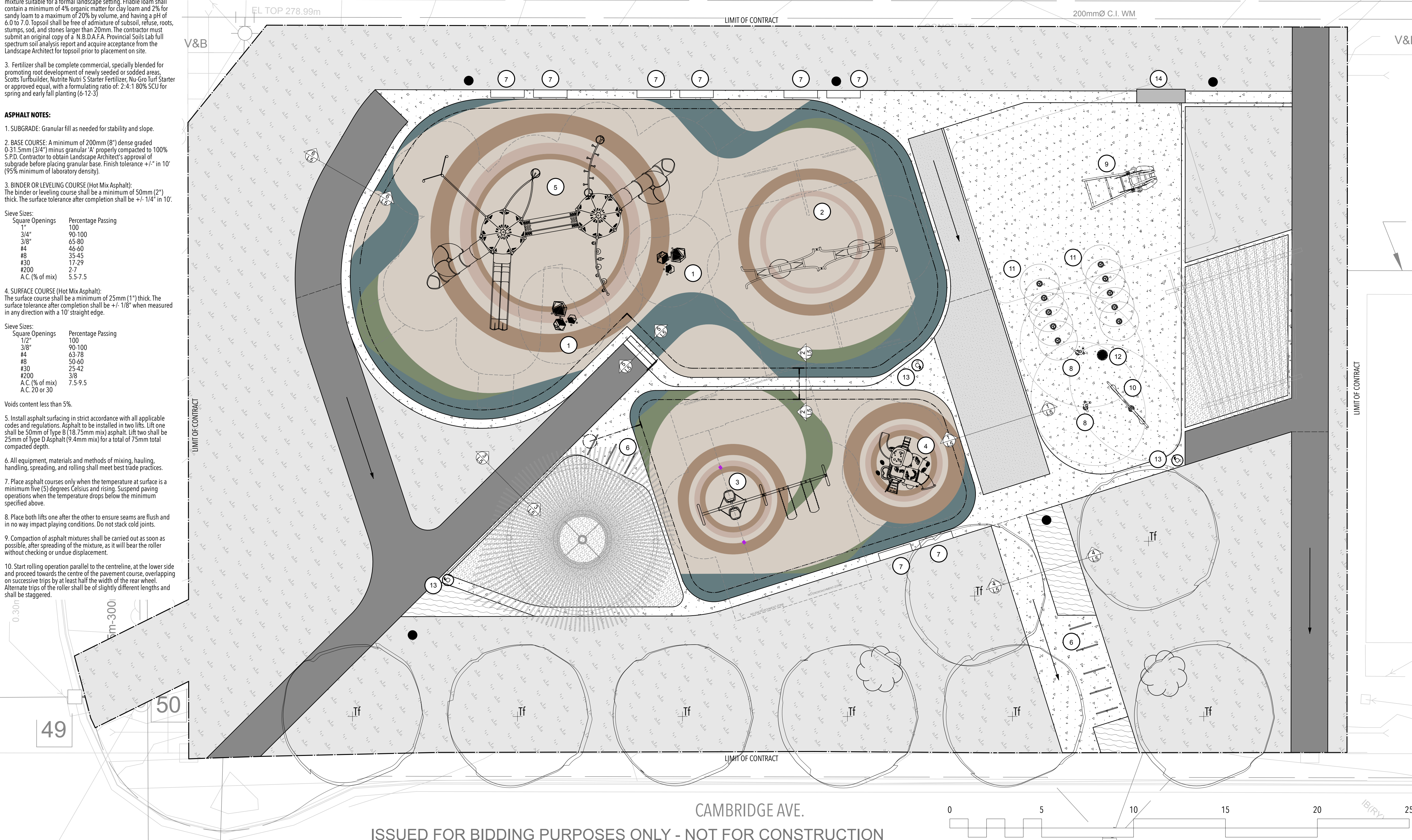
2. Concrete surfaces edge chamfer to be 6mm by 6mm. All chamfer surfaces to be smooth and consistent with no portion of the chamfer surface varying greater than 3mm over a 1 meter straight stick.

DRAWING LABELS:

- Landscape Structures Facet Steppers Set - Models 237103, 237104, 237105
- Landscape Structures Oodle Swing, Double - Model 210117
- Landscape Structures Friendship Swing w/5" Arch Swing Frame - Model 237293 + 5" Arch Swing Additional Bay - Model 221293
- Landscape Structures Motion - Model 197057
- Landscape Structures Super Netplex 12' & 12' Towers - Model 254629
- Landscape Structures Arches Bike Rack - Model 185654
- Landscape Structures Log Bench - Model 173595
- Vortex Intl. Superwave - VOR 0136
- Vortex Intl. Seaweed N°3 - VOR 7781
- Vortex Intl. Sea Silhouette Trutle - VOR 7689
- Vortex Intl. Coreplay Sunset - VOR 7060
- Vortex Intl. Playsafe Drain N°4 - VOR 1004
- Landscape Structures Kaleidoscope Litter Receptacle - Model 186589
- Vortex Intl. Smartflow Command Centre Cabinet

Planting Schedule - Devonshire Park Playground

Image	ID	Qty	Botanical Name	Common Name	Scheduled Size
	Tf	8	Tilia flava 'Glenleven'	Glenleven Linden	100mm Caliper

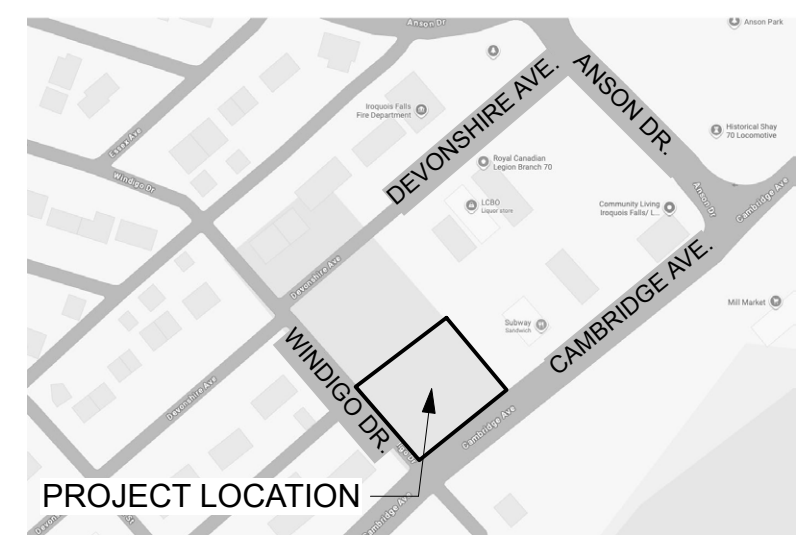


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Client:

THE TOWN OF IROQUOIS FALLS



DEVONSHIRE PARK PLAYGROUND
 Iroquois Falls, ON

Drawing Name:
LANDSCAPE MATERIALS PLAN

No.	Revision	Date
1	Issued for tender	June 12, 2026

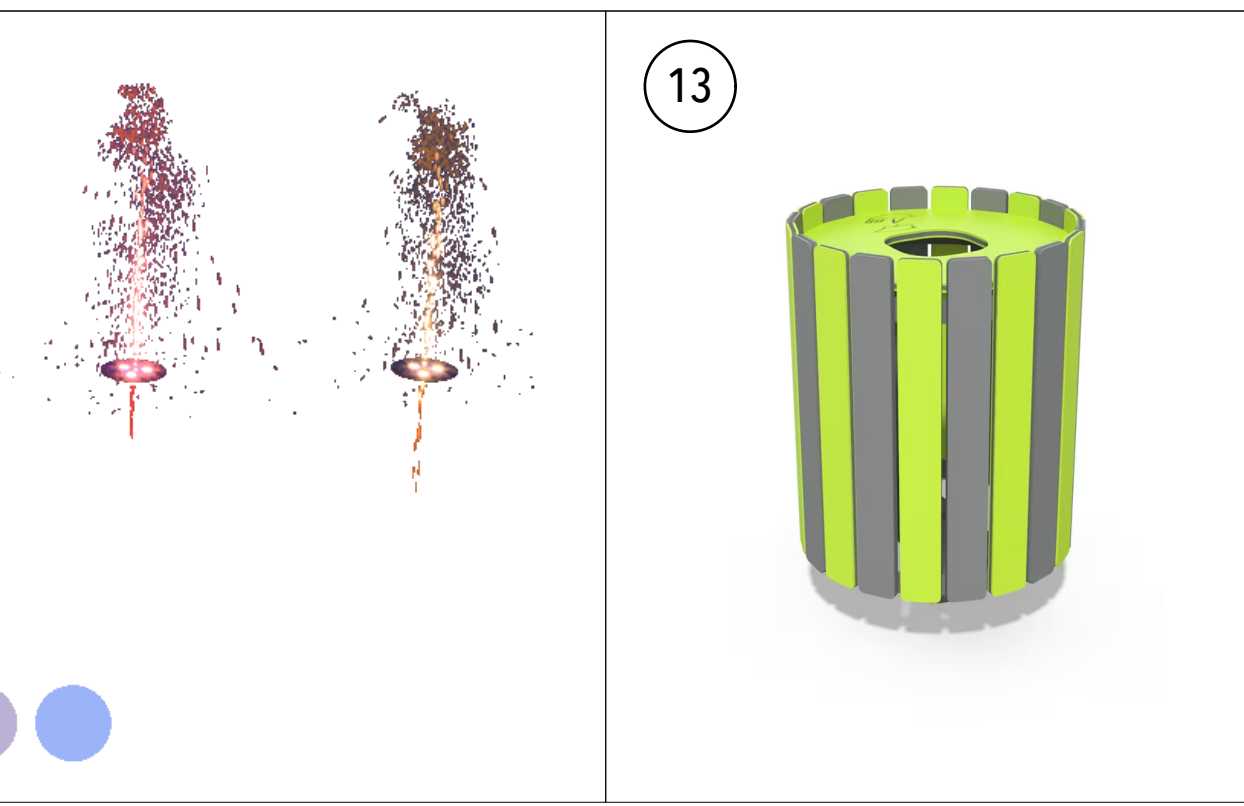
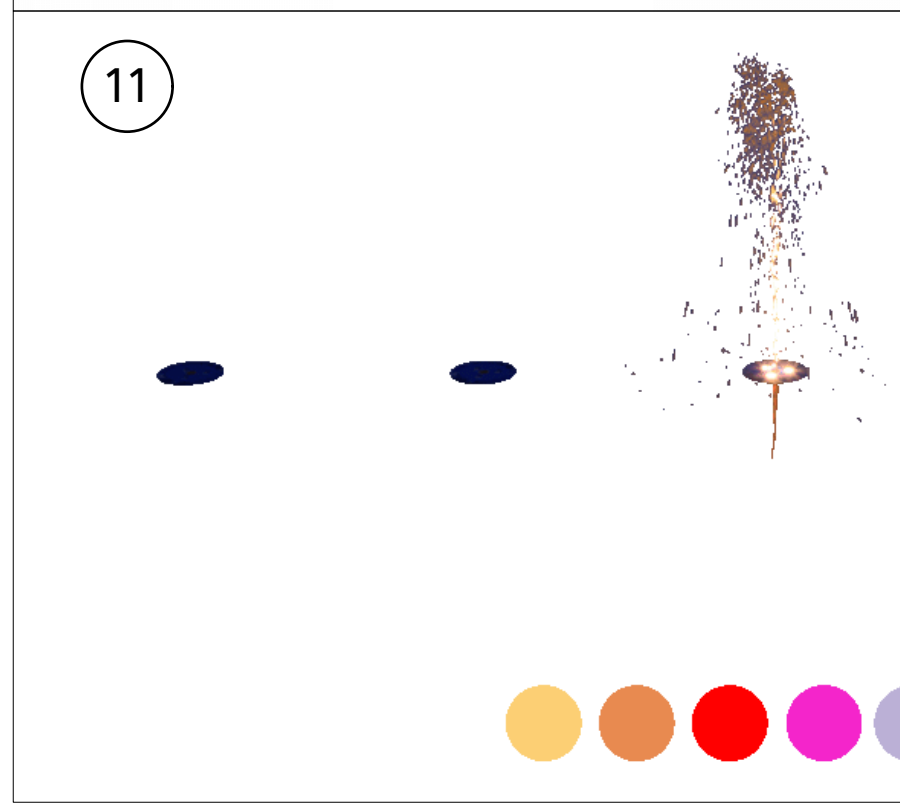
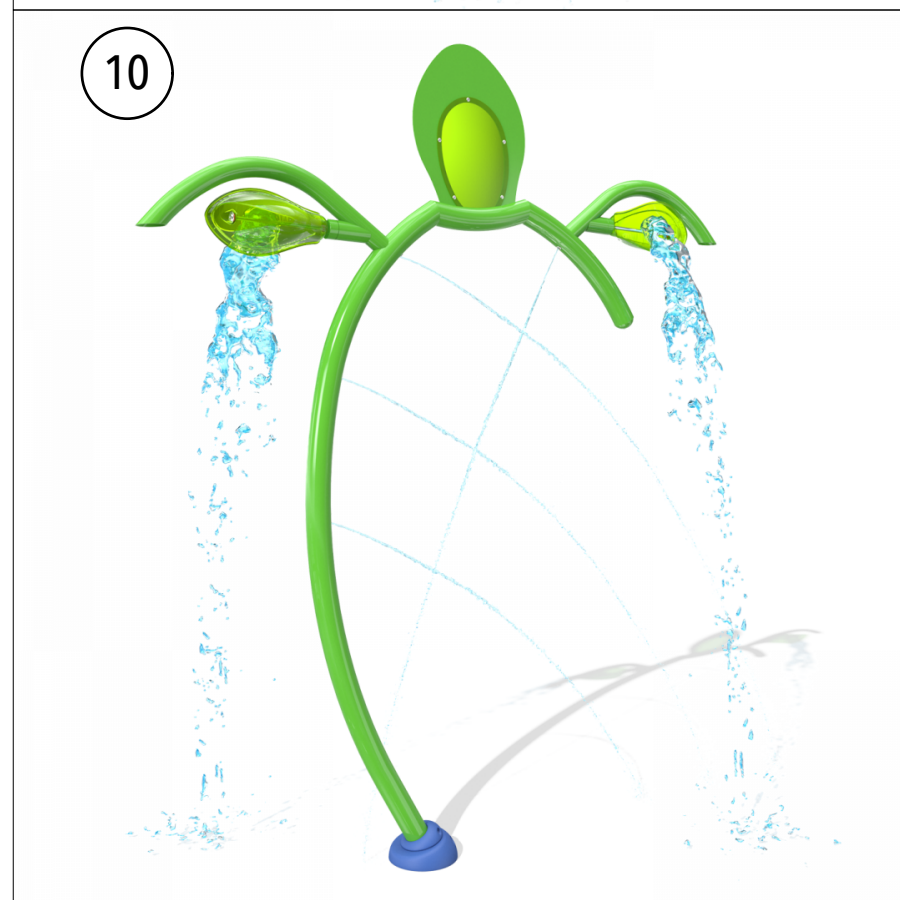
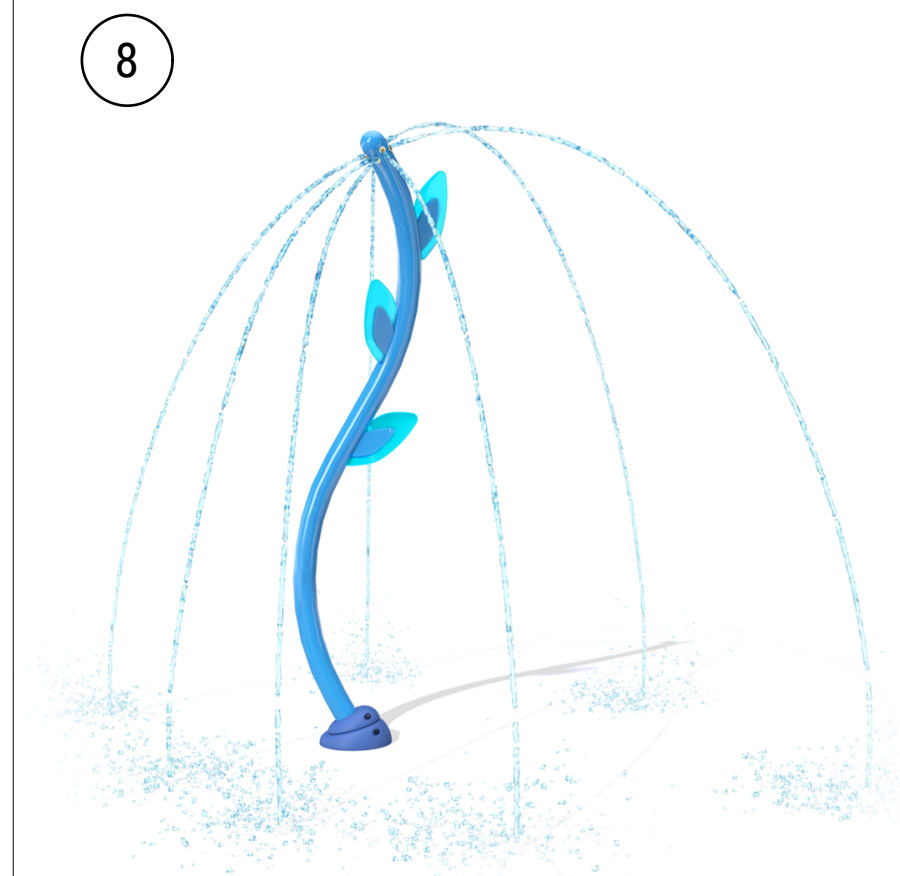
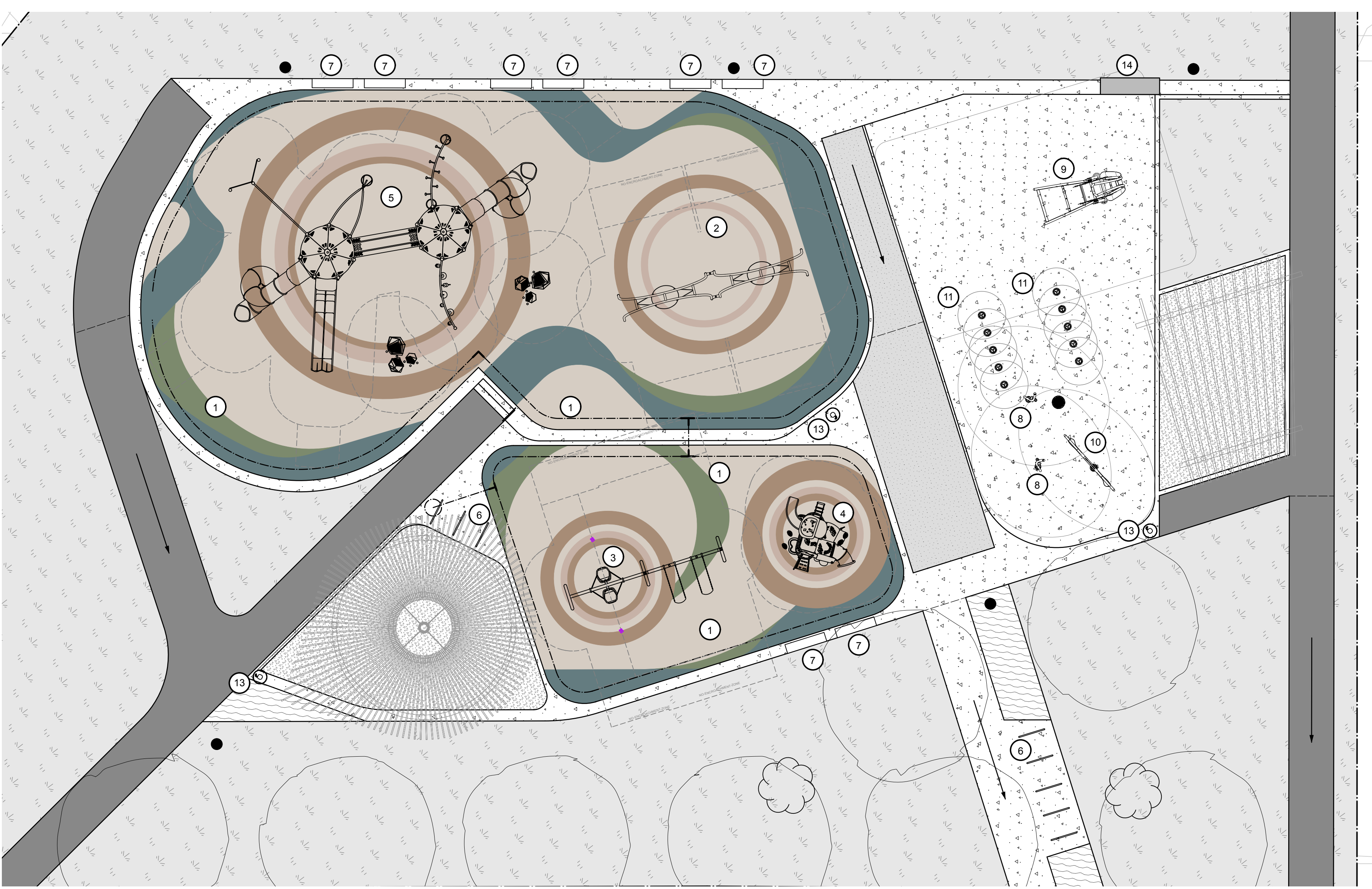
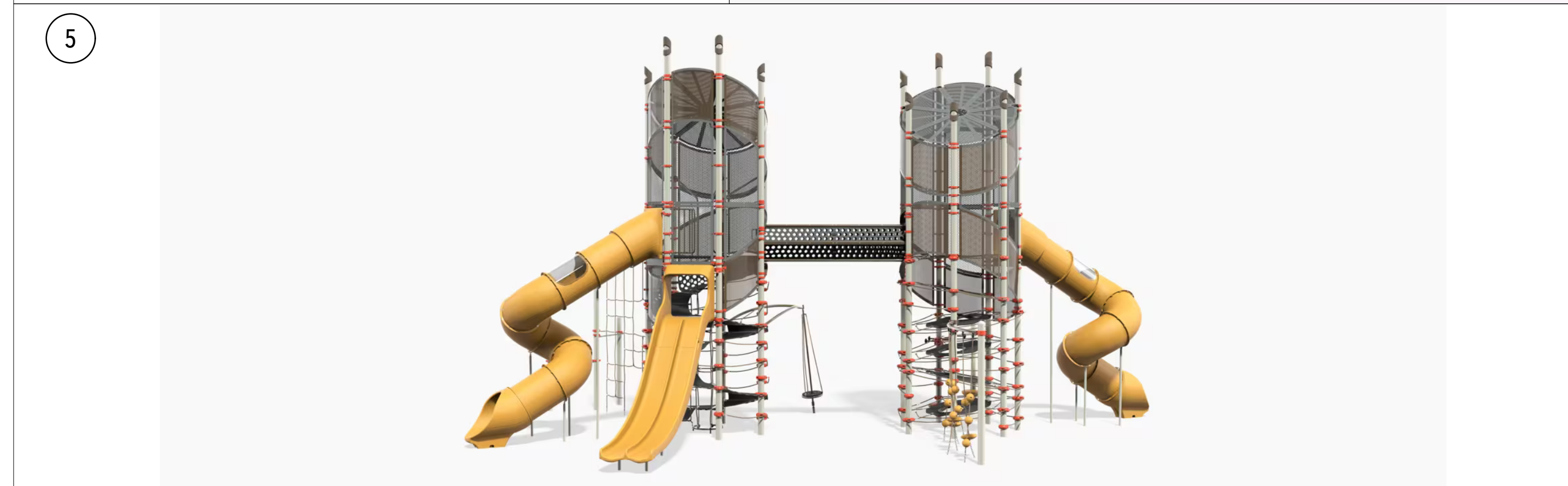
Scale:	Date:
1:100	May 2026
Drawn by: NM	Checked by: JWS
Approved by:	Dept. Approval:

Stamp:
 Drawing No. **L3**

LEGEND

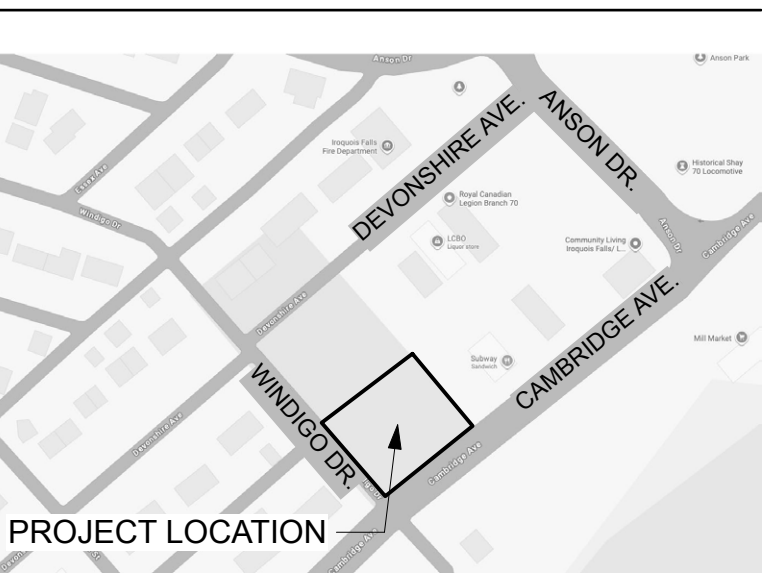
- LIMIT OF CONTRACT
- - - SAFETY ZONE
- SPLASH ZONE
- ASPHALT
- CONCRETE
- ARTIFICIAL GRASS
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- PLANTING BED
- TAILINGS
- NEW LIGHT POST

- DRAWING LABELS:**
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 12. Vortex Intl. Playsafe Drain N°4 - VOR 1004
 13. Landscape Structures Kaleidoscope Litter Receptacle - Model 186589
 14. Vortex Intl. Smartflow Command Centre Cabinet

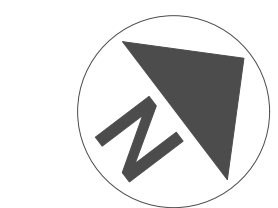


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Client: THE TOWN OF IROQUOIS FALLS



**DEVONSHIRE PARK
 PLAYGROUND**
 Iroquois Falls, ON

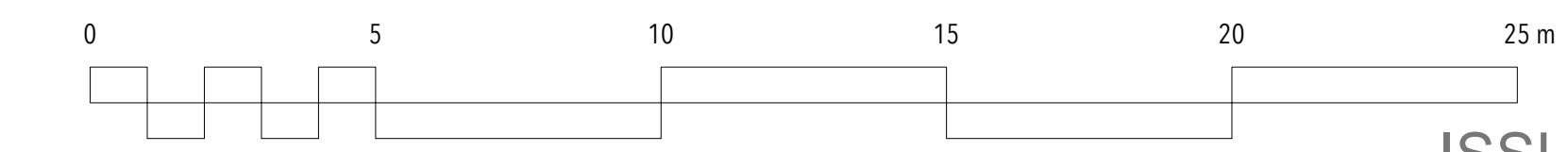


Drawing Name: **PLAYGROUND EVENTS**

No.	Revision	Date
1	Issued for tender	June 12, 2026

Scale:	as noted	Date:	May 2026
Drawn by:	NM	Checked by:	JWS
Approved by:		Dept. Approval:	

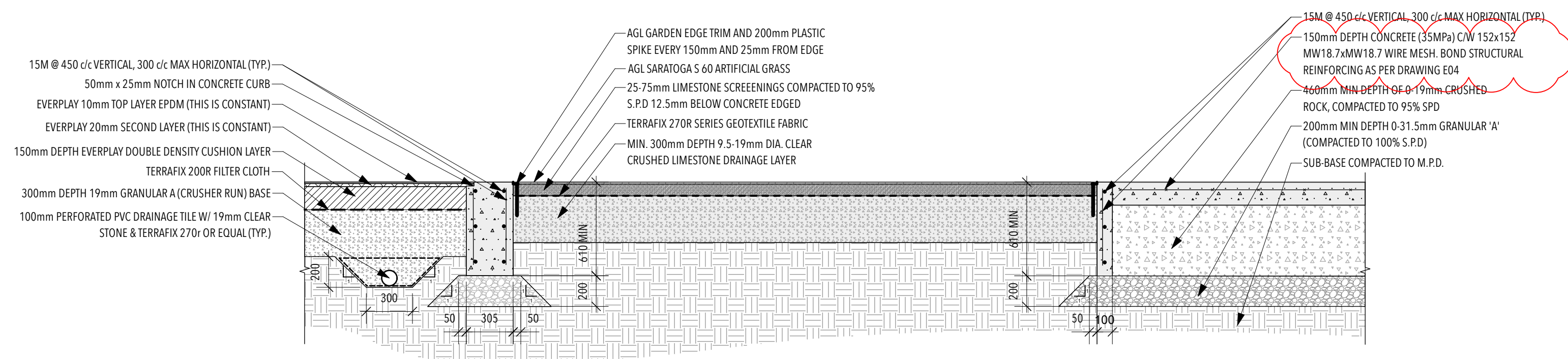
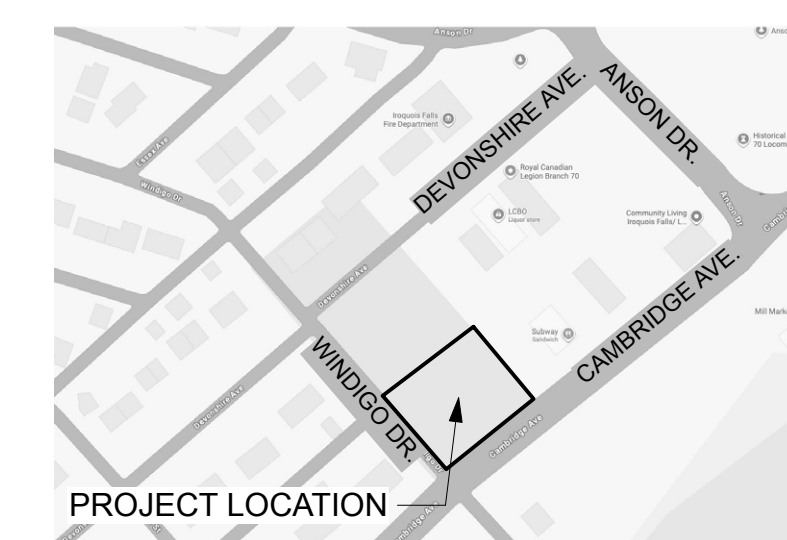
Stamp: Association des architectes-paysagistes de la province de Québec
 JWS
 JIM W. SCOTT
 Drawing No. **L4**



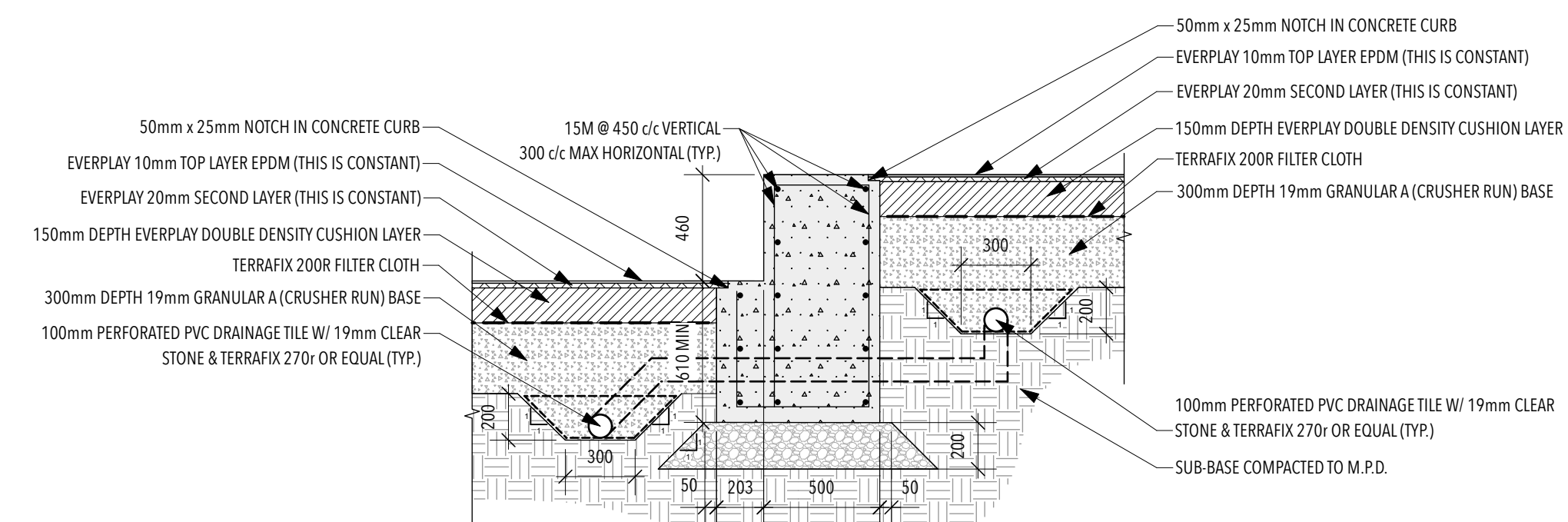
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Client:

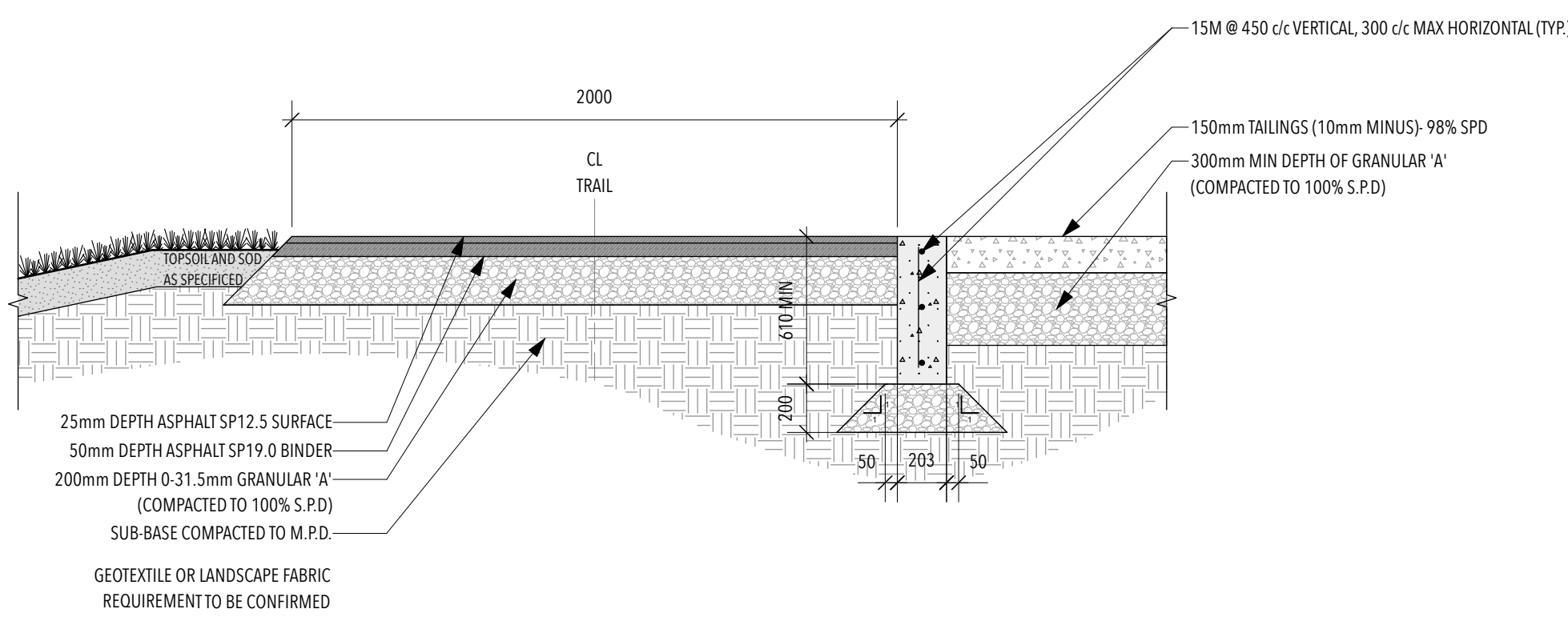
THE TOWN OF IROQUOIS FALLS



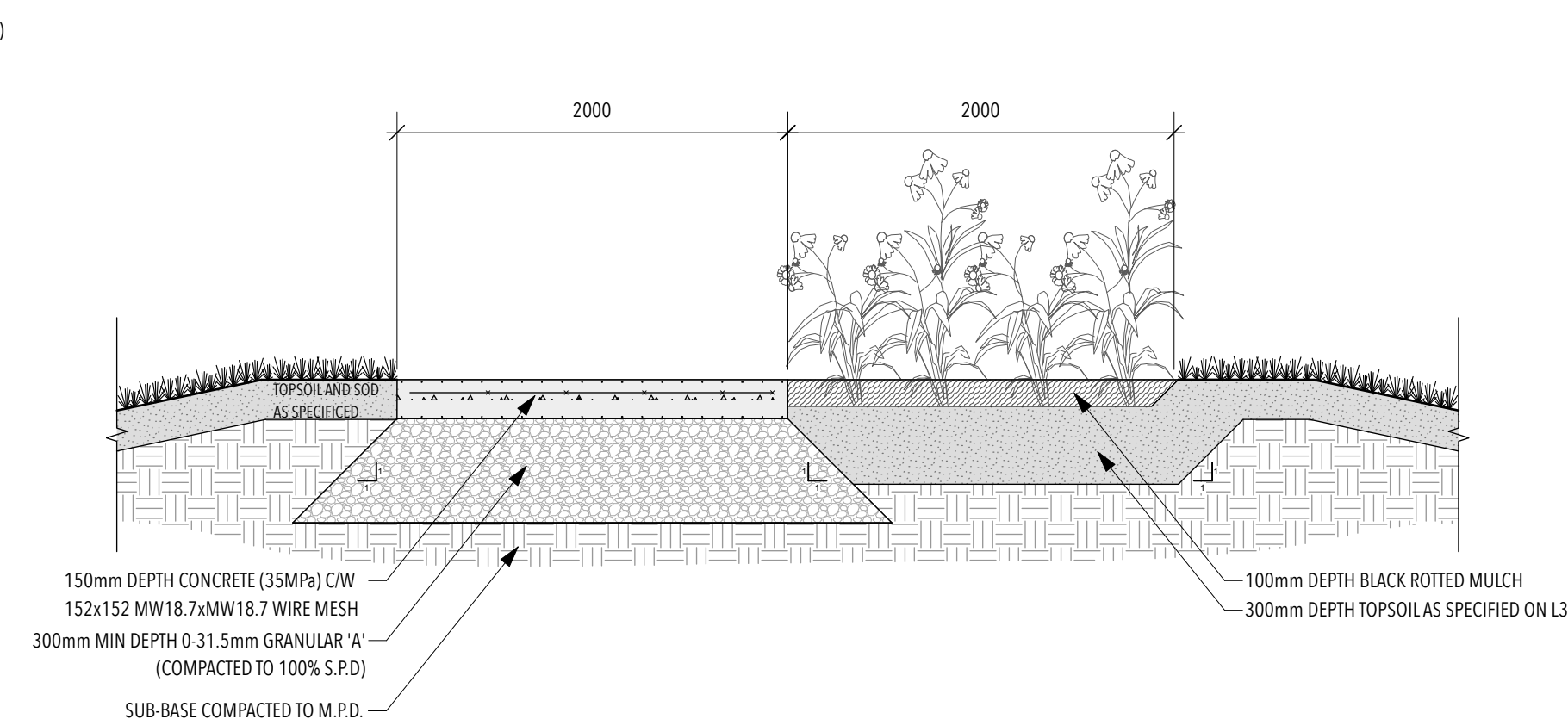
1
L3
PLAYZONE EDGING, TURF, AND SPLASHPAD SECTION
1:25



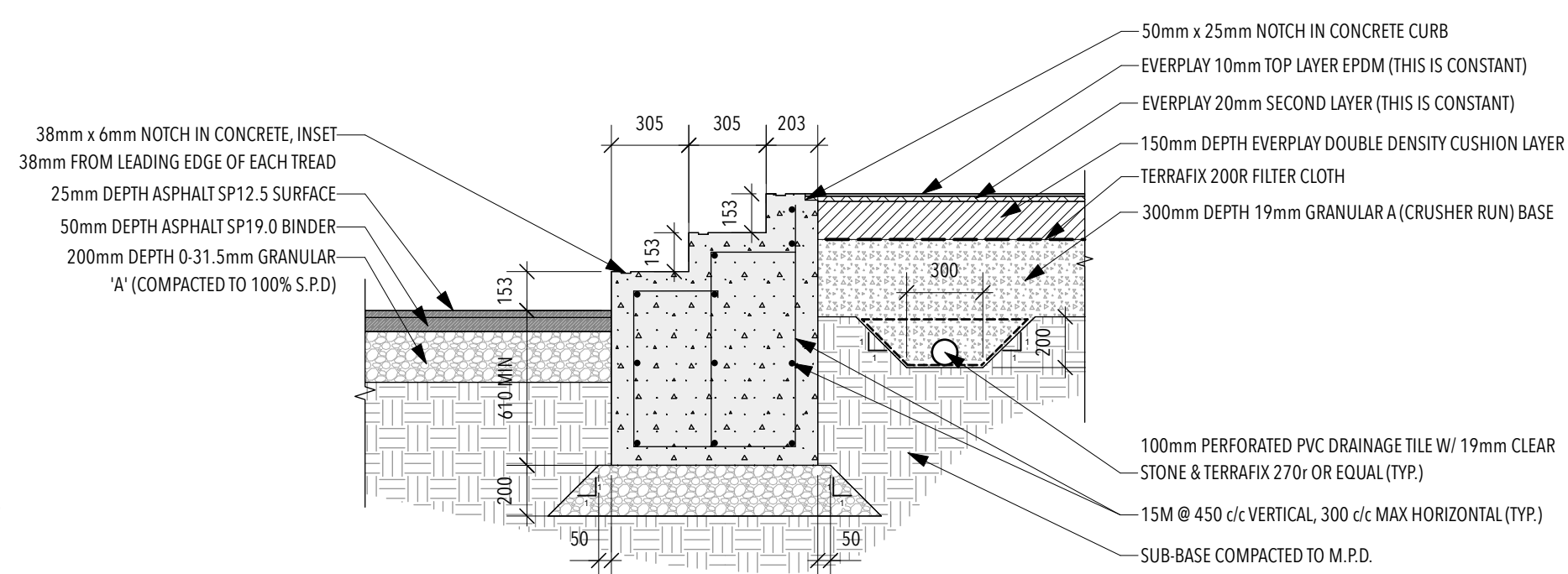
2
L3
PLAYZONE EDGING AND SURFACE SECTION
1:25



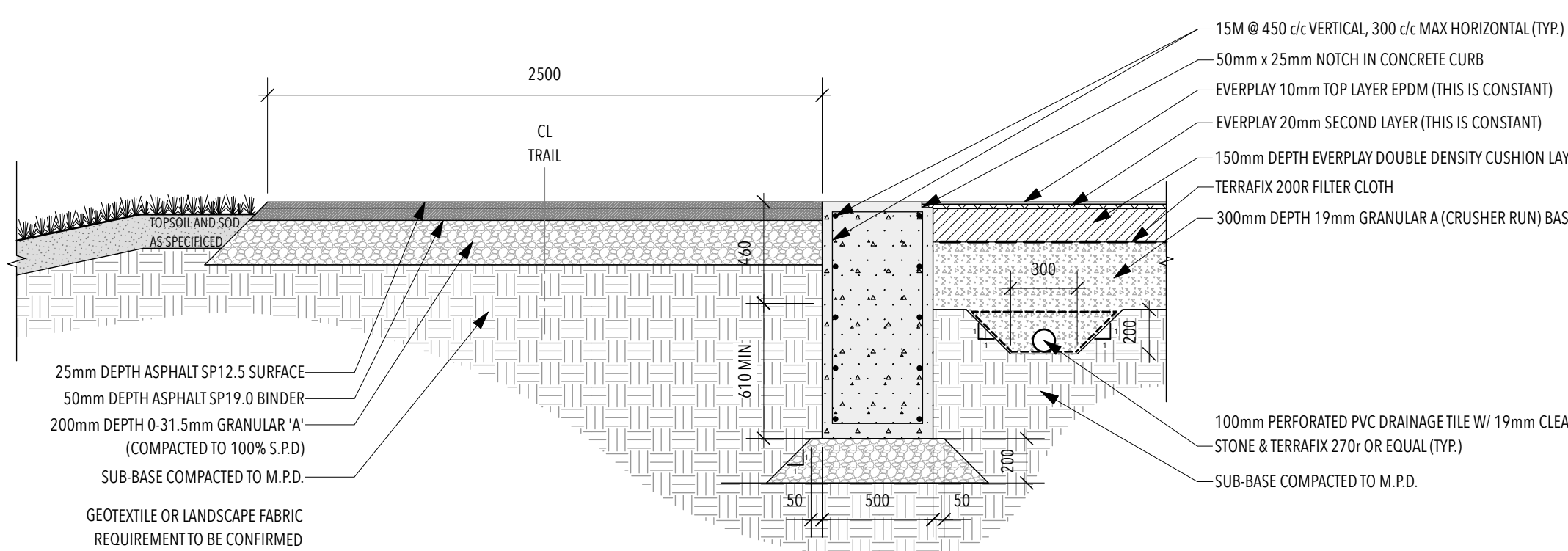
3
L3
ASPHALT PATH, CONCRETE EDGE, AND TAILINGS SECTION
1:25



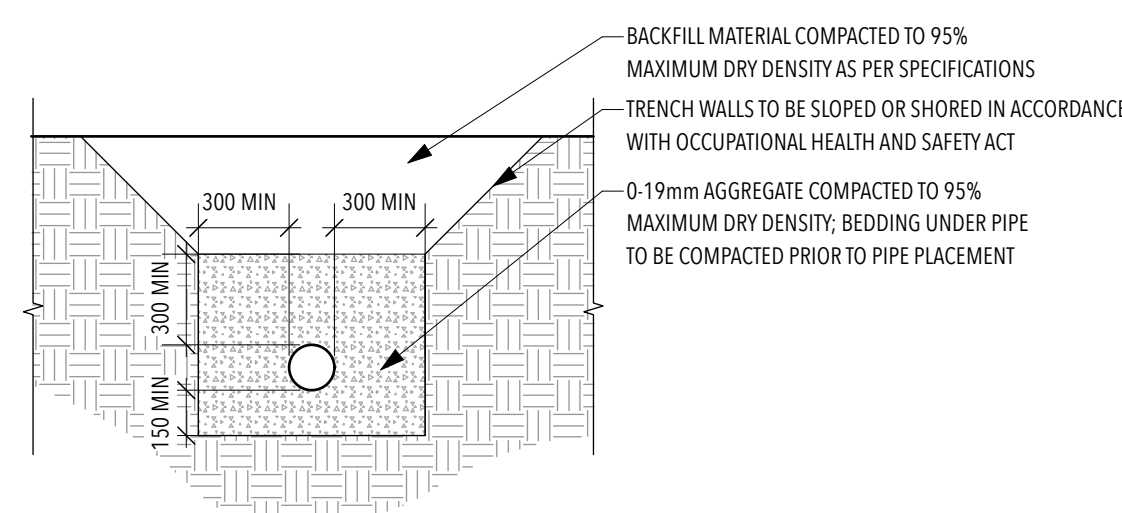
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L3
CONCRETE PATH AND PLANTING BED SECTION
NTS



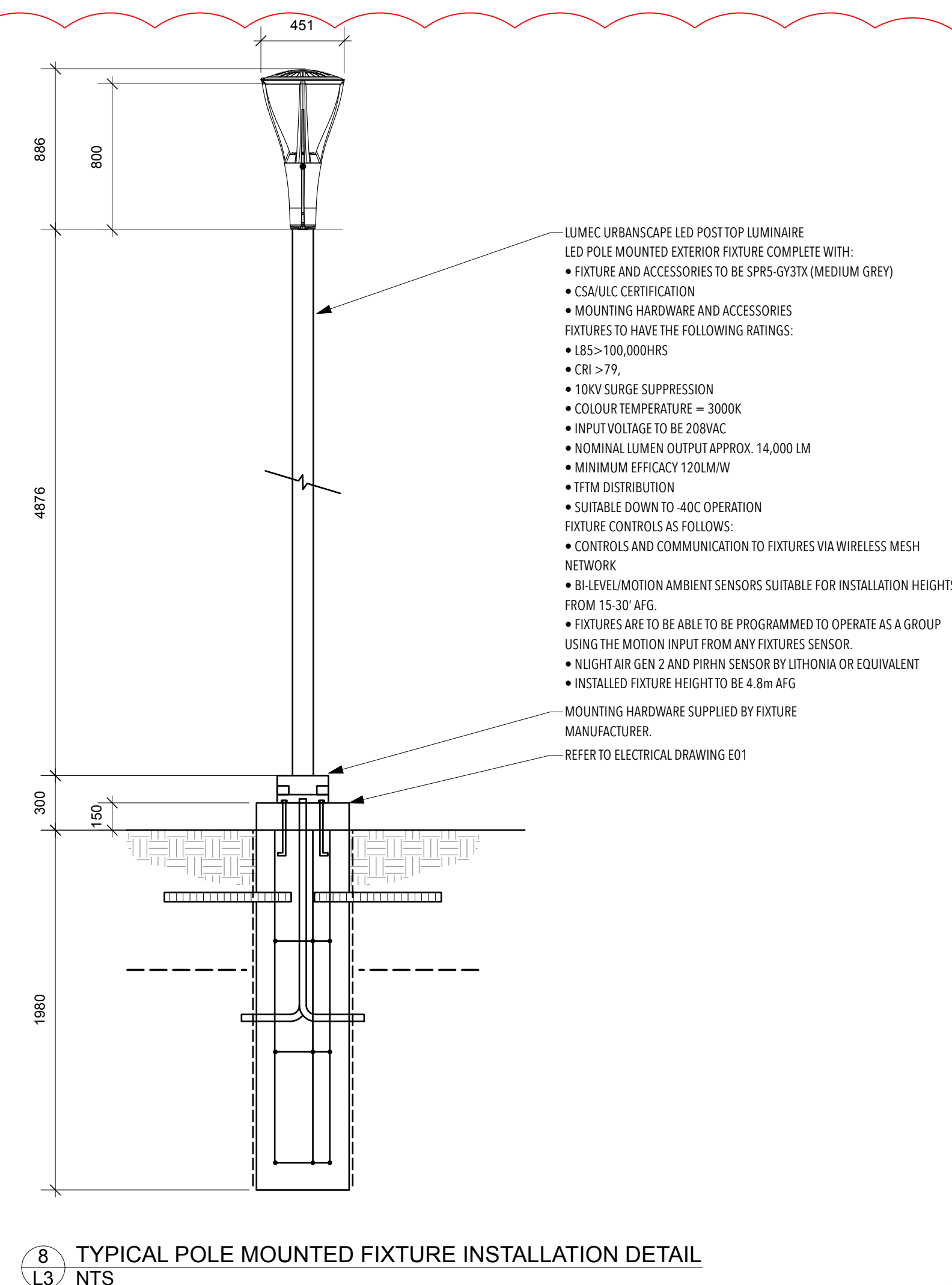
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L3
ASPHALT PATH, STAIRS, AND PLAYZONE SURFACE SECTION
1:25



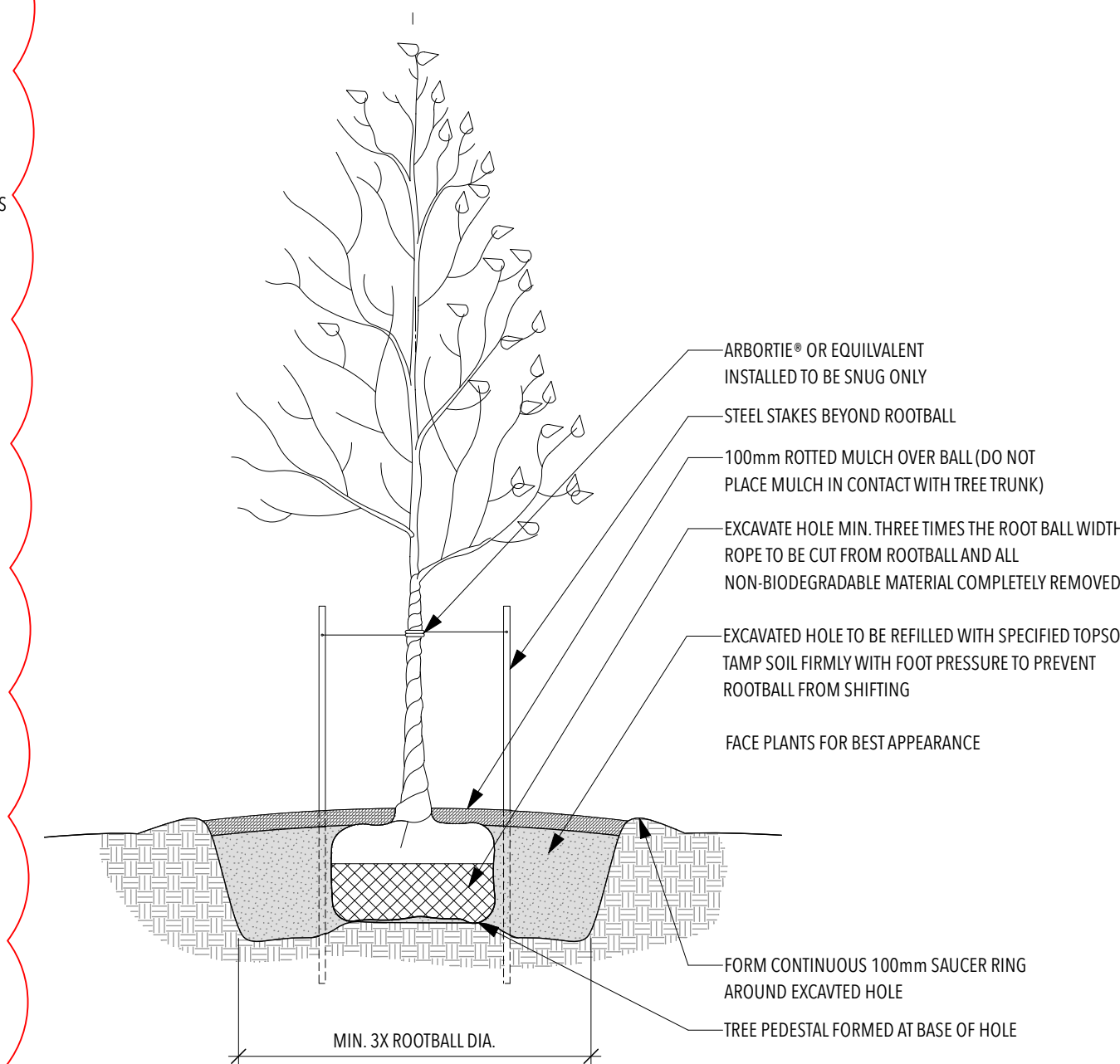
6
L3
ASPHALT PATH, CONCRETE EDGE, AND PLAY SURFACE SECTION
1:25



7
L3
TYPICAL PVC DRAIN PIPE TRENCH
NTS



8
L3
TYPICAL POLE MOUNTED FIXTURE INSTALLATION DETAIL
NTS



9
L3
DECIDUOUS TREE PLANTING DETAIL
NTS

DEVONSHIRE PARK
PLAYGROUND
Iroquois Falls, ON

Drawing Name:

LANDSCAPE DETAILS

No.	Revision	Date
2	Revision #1	June 18, 2026
1	Issued for tender	June 12, 2026

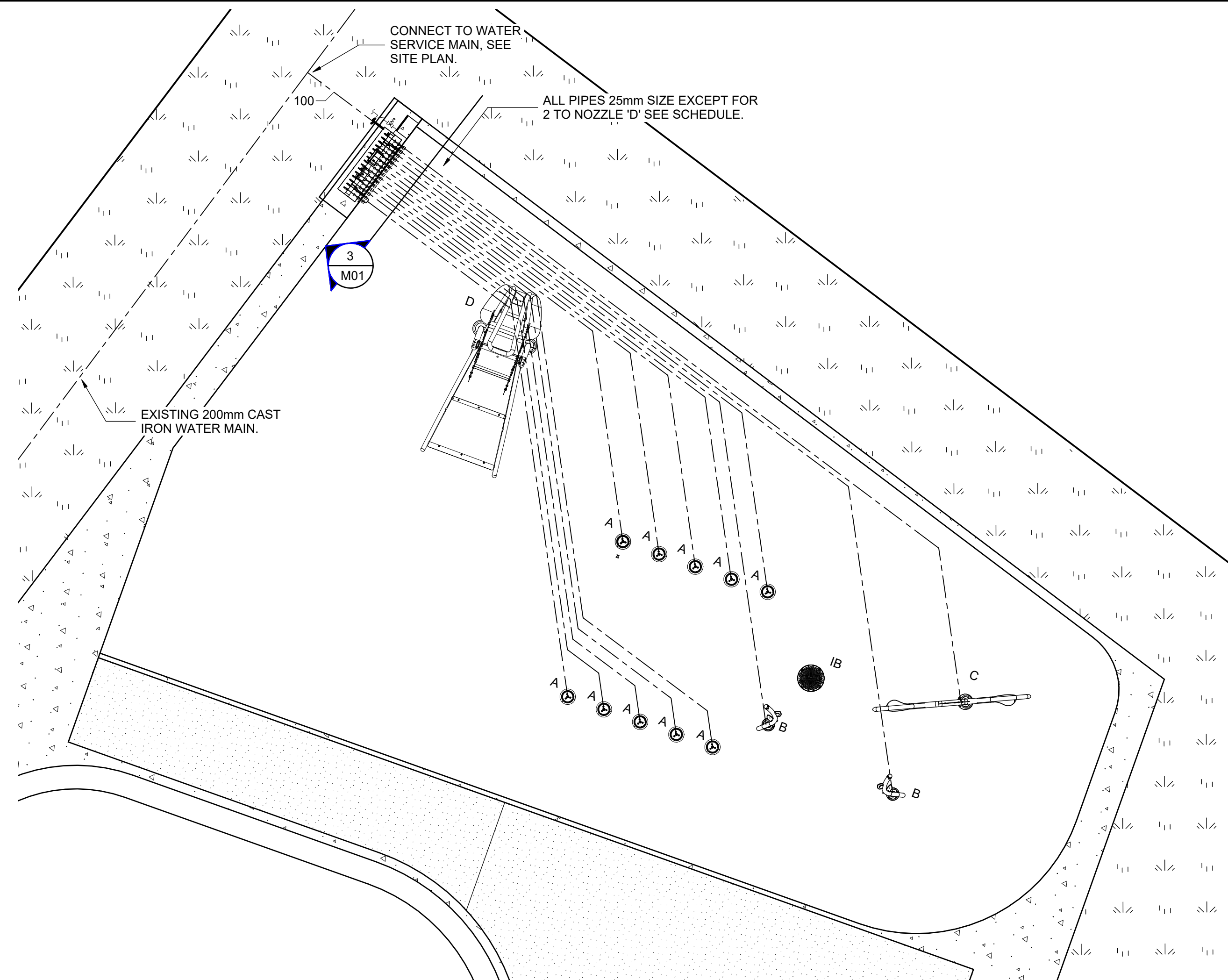
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Drawn by:	NM	Checked by:	JWS
Approved by:		Dept. Approval:	

Stamp: Association des architectes-paysagistes des Antilles et du Nord de la France

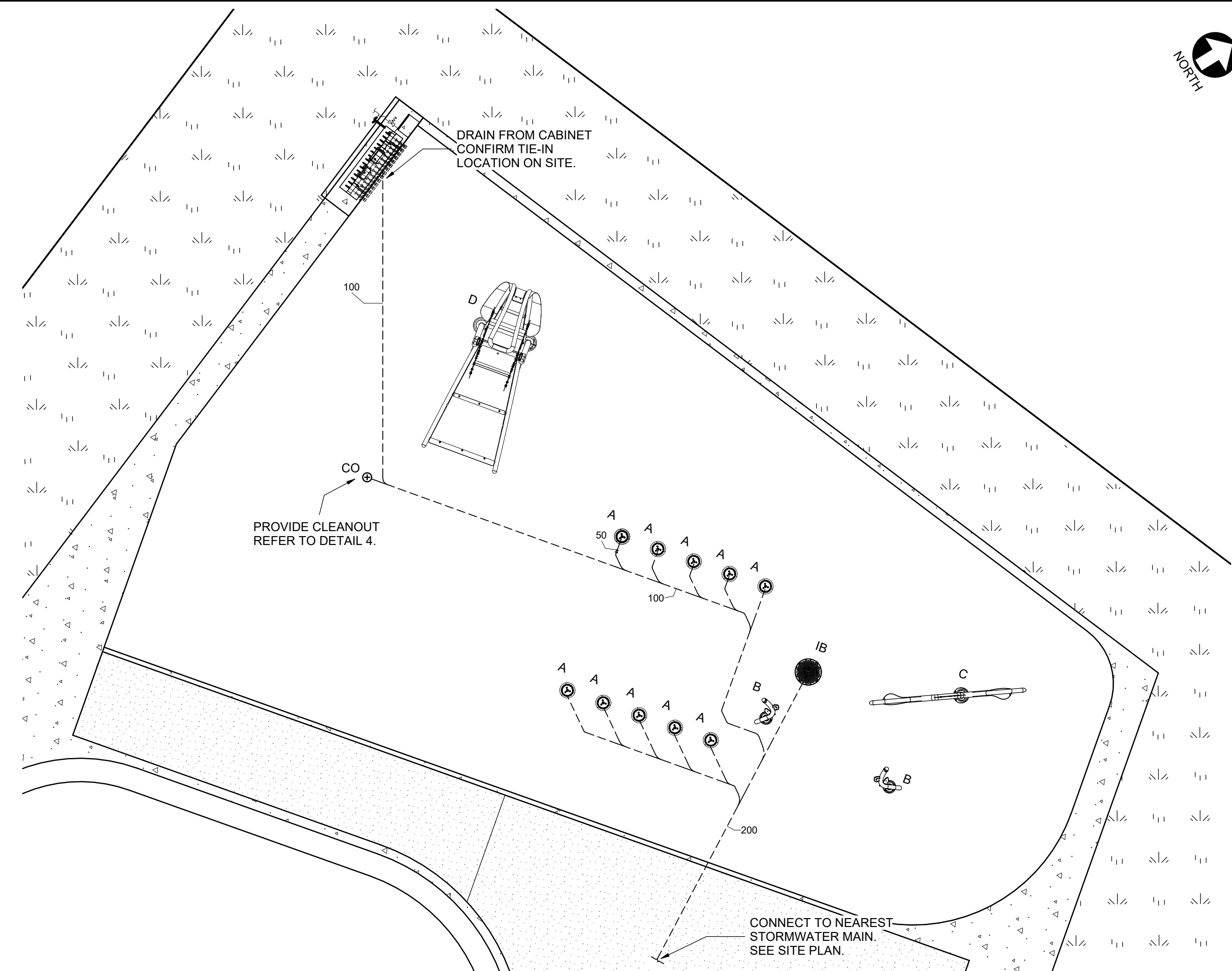
Stamp: JWS

Stamp: JIM W. SCOTT

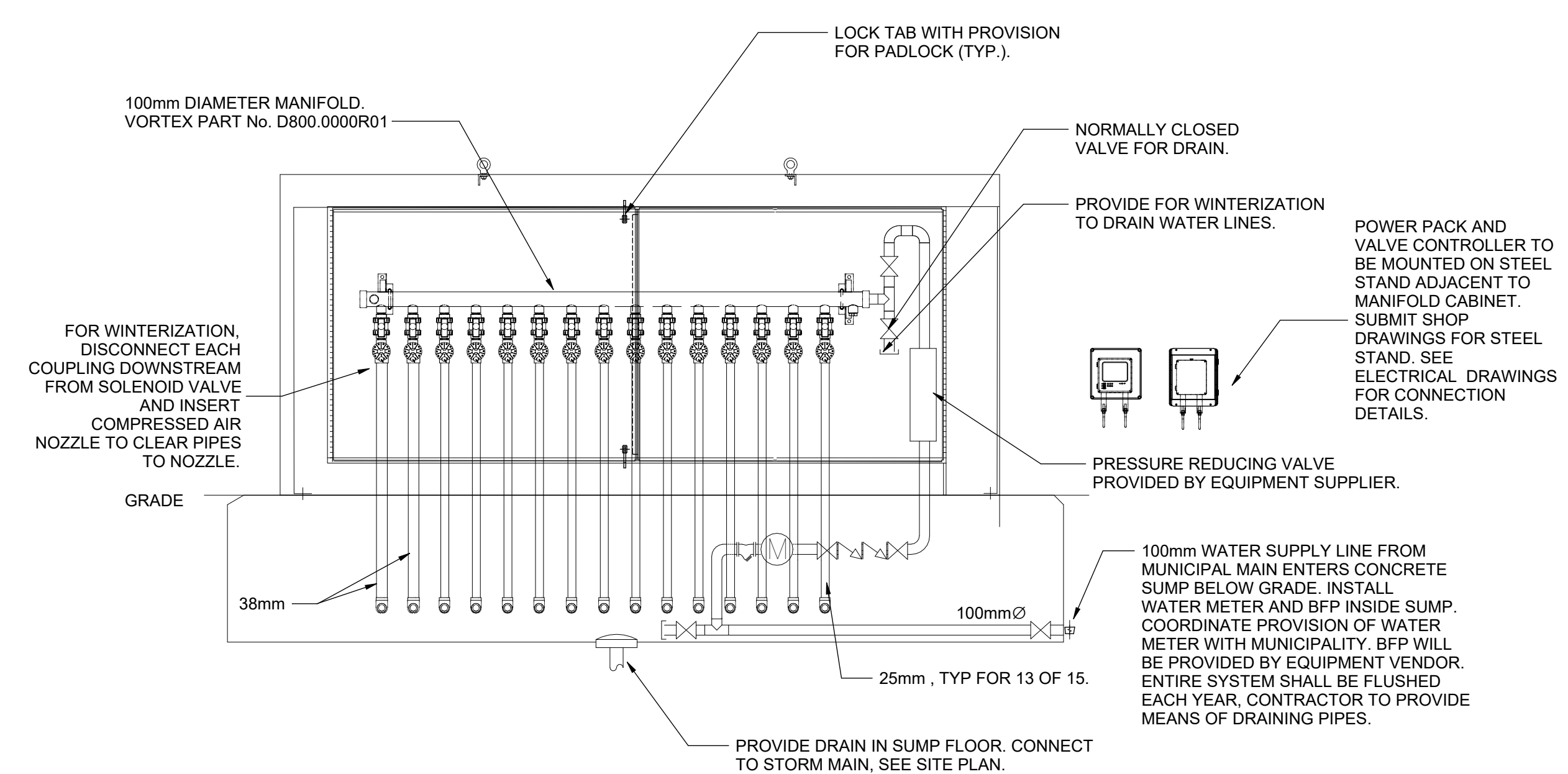
Drawing No. L5



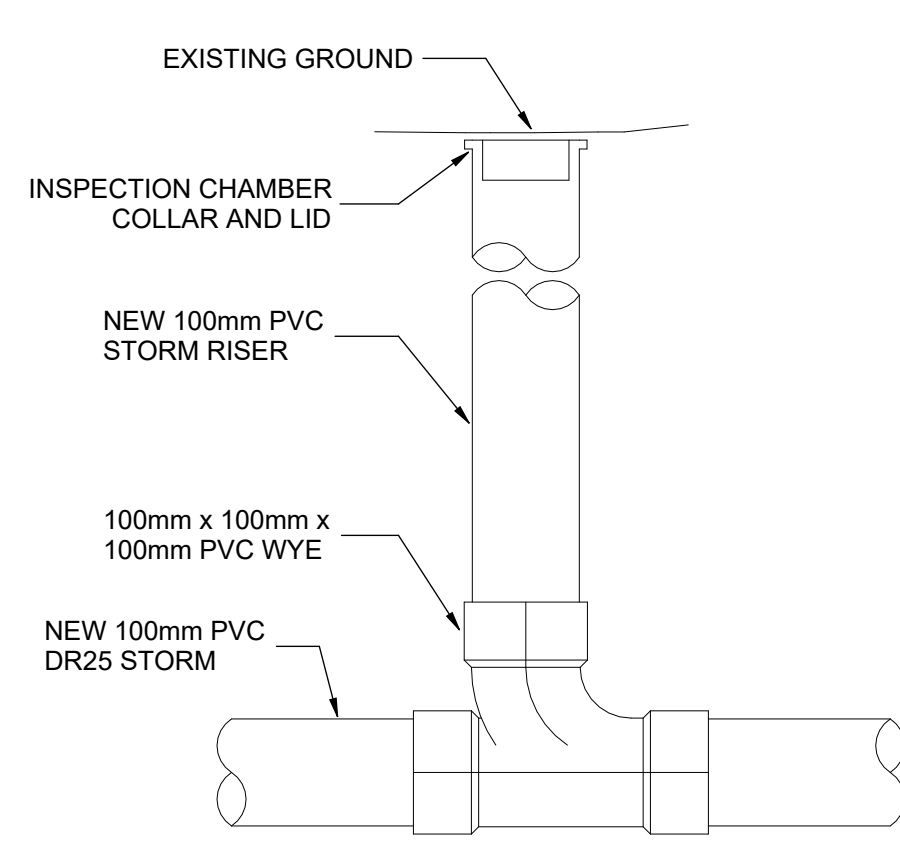
1 PLAN SUPPLY WATER
1:75



2 PLAN STORM DRAINAGE
1:75



3 DETAIL MANIFOLD CABINET DETAIL
NTS



4 DETAIL CLEANOUT DETAIL
N.T.S.

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
---	WATER TO SPLASHPAD
---	STORM
⌘	BACKFLOW PREVENTER
⌘	PIPE STRAINER
M	WATER METER
CO	FLOOR CLEANOUT

AREA DRAIN SCHEDULE			
TAG	QUANTITY	MANUFACTURER/MODEL	DESCRIPTION
A	10	VORTEX / VOR 7060	COREPLAY SUNSET (INTEGRAL DRAIN)
IB	1	VORTEX / VOR 1001	PLAYSAFE DRAIN

SPRAY NOZZLE SCHEDULE					
TAG	MANUFACTURER/MODEL	QUANTITY	TOTAL FLOW RATE, LPM	PIPE SIZE	DESCRIPTION
A	VORTEX / VOR 7060	10	189	25mm	COREPLAY SUNSET
B	VORTEX / VOR 7781	2	42	25mm	SEAWEED No. 3
C	VORTEX / VOR 7689	1	30	25mm	SEA SILHOUETTE TURTLE
D	VORTEX / VOR 0136	1	114	38mm	SUPERWAVE



PROJECT LOCATION N.T.S.

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No	Issued For Tender	Description	Date	By
0			2026.06.17	JDB

Revision or Issue

THE TOWN OF IROQUOIS FALLS

DEVONSHIRE PARK SPLASHPAD

MECHANICAL

PLUMBING LAYOUT



Contract No: 263241.00
Date: MAY 2026
Scale: As indicated
Designed: JDB
Drawn: RBO
Checked: --
Approved: RH

Sheet No: 1 of 2
Drawing No: **M01**

LICENSED PROFESSIONAL ENGINEER
R. HARALAMPIEV
100177378
PROVINCE OF ONTARIO

A. GENERAL PROVISIONS

- 1. CONFORMANCE:
1.1. CONFORM TO TERMS AND CONDITIONS OF THE GENERAL CONTRACT DOCUMENT SCOPE:
1.1.1. PROVIDE COMPLETE, FULLY TESTED AND OPERATIONAL MECHANICAL SYSTEMS TO MEET THE REQUIREMENTS DESCRIBED HEREIN AND IN COMPLETE ACCORDANCE WITH APPLICABLE CODES AND ORDINANCES.
1.1.2. CONTRACT DOCUMENTS OF THIS DIVISION AND DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATELY TO SCALE UNLESS DETAILED OTHERWISE. THEY ESTABLISH SCOPE, MATERIAL AND INSTALLATION QUALITY AND ARE NOT DETAILED INSTALLATION INSTRUCTIONS.
1.1.3. FOLLOW MANUFACTURERS RECOMMENDED INSTALLATION DETAILS AND PROCEDURES FOR EQUIPMENT SUPPLEMENTED BY REQUIREMENTS OF CONTRACT DOCUMENTS.
1.1.3.1. INSTALL EQUIPMENT GENERALLY IN LOCATIONS AND ROUTES SHOWN CLOSE TO BUILDING STRUCTURE WITH MINIMUM INTERFERENCE WITH OTHER SERVICES OR FREE SPACE. REMOVE AND REPLACE IMPROPERLY INSTALLED EQUIPMENT TO THE SATISFACTION OF THE CONSULTANT AT NO EXTRA COST.
1.1.3.2. THE DRAWINGS INDICATE THE GENERAL LOCATION AND ROUTE TO BE FOLLOWED BY THE PIPING AND DUCTWORK. WHERE DETAILS ARE NOT SHOWN ON THE DRAWINGS OR ONLY SHOWN DIAGRAMMATICALLY, THE PIPES AND DUCTWORK SHALL BE INSTALLED IN SUCH A WAY AS TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF SPACE THROUGH WHICH THEY PASS. SERVICE LINES SHALL RUN PARALLEL TO BUILDING LINES. ALL DUCT AND PIPES AT CEILING SHALL BE KEPT AS TIGHT AS POSSIBLE TO BEAMS OR OTHER LIMITING MEMBERS AT HIGH END. ALL PIPES AND DUCTS SHALL BE COORDINATED IN ELEVATION TO ENSURE THAT THEY ARE CONCEALED IN THE CEILING SPACE PROVIDED UNLESS DETAILED AND DIMENSIONED OTHERWISE ON DRAWINGS AND PERMITTED OTHERWISE BY THE CONSULTANT.
1.1.3.3. CONNECT TO EQUIPMENT SPECIFIED IN OTHER SECTIONS AND TO EQUIPMENT SUPPLIED AND INSTALLED BY OTHER CONTRACTORS OR BY THE OWNER. UNCRATE EQUIPMENT, MOVE IN PLACE AND INSTALL COMPLETE, START UP AND TEST.
1.1.3.4. PROVIDE UNIONS AND FLANGES TO PERMIT EQUIPMENT MAINTENANCE AND DISASSEMBLY.
1.1.3.5. PIPE ALL EQUIPMENT DRAINS TO FUNNEL FLOOR DRAINS.
1.1.3.6. EQUIPMENT SUPPORTS NOT SUPPLIED BY MANUFACTURER SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL. SUBMIT STRUCTURAL CALCULATIONS WITH DRAWINGS.
1.1.3.7. PROVIDE ONE SET OF SPECIAL TOOLS REQUIRED TO SERVICE EQUIPMENT AS RECOMMENDED BY THE MANUFACTURER.
1.1.4. CONNECT INTO EXISTING SYSTEMS WITH MINIMUM DISRUPTION TO THE EXISTING SYSTEMS.
1.1.5. FIELD VERIFY ALL SITE DIMENSIONS PRIOR TO ANY FABRICATION AND INSTALLATION OF EQUIPMENT OR MATERIALS. NO ADDITIONAL CHARGE SHALL BE ENTERTAINED FOR FAILURE TO VERIFY THESE DIMENSIONS ON SITE.

- 2. MATERIALS
2.1. MATERIALS AND EQUIPMENT INSTALLED SHALL BE NEW, FULL WEIGHT AND OF QUALITY SPECIFIED. USE SAME BRAND OR MANUFACTURER FOR EACH SPECIFIED APPLICATION.
2.2. EACH MAJOR COMPONENT OF EQUIPMENT SHALL BEAR MANUFACTURER'S NAME, ADDRESS, CATALOG AND SERIAL NUMBER IN A CONSPICUOUS PLACE.
2.3. PIPING MATERIALS SHALL BE AS FOLLOWS AND MEET ALL CODES HAVING JURISDICTION:
2.3.1. EQUIPMENT DRAINS AND OVERFLOWS: PVC, DWV COPPER
2.3.2. SANITARY SEWER OUTSIDE BUILDING: CAST IRON, PVC
2.3.3. DOMESTIC WATER UNBURIED: TYPE "L" HARD COPPER, PEX-A
2.3.4. DOMESTIC WATER BURIED: TYPE "K" SOFT COPPER, PVC
2.4. FITTINGS SHALL BE OF APPROVED MATERIALS AND MEET CODES HAVING JURISDICTION.
2.5. PIPE AND FITTINGS SHALL BE CSA LISTED AND ULC APPROVED.
2.6. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING PROPERTY LINE AND BUILDING INVERTS TO ASSURE A MINIMUM SLOPE OF 1% FOR SANITARY LINES AND A MINIMUM COVER OF 2.4 M WHERE ANY PLUMBING LINES LEAVE THE BUILDING.
2.7. PROVIDE AND INSTALL PIPE SUPPORTS AND HANGERS TO ANSI, B31.1 STANDARDS.
2.8. PROVIDE AND INSTALL DUCT SUPPORTS AND HANGERS TO SMACNA STANDARDS.
2.9. ALL PRESSURE RELIEF VALVES SHALL BE PIPED TO NEAREST FLOOR DRAIN.

- 3. TESTING
3.1. PERFORM NECESSARY TESTS ON EQUIPMENT INCLUDING THOSE REQUIRED BY AUTHORITIES HAVING JURISDICTION AND CERTIFICATE OF APPROVAL OBTAINED.
3.2. PERFORM APPROVED TESTS ON ALL SANITARY, STORM, VENTING, DOMESTIC WATER, HEATING WATER, PIPING SYSTEMS AS WELL AS ALL DUCTWORK SYSTEMS, OBTAIN AND SUBMIT CERTIFICATES OF APPROVAL AND ACCEPTANCE.
3.3. CONTRACTOR SHALL BEAR COSTS TESTING, RETESTING, AND NECESSARY ADJUSTMENTS.
3.4. ISOLATE ALL PARTS NOT DESIGNED TO WITHSTAND PRESSURE TEST.
3.5. TEST ALL PIPING SYSTEMS FOR AT 1.5 TIMES OPERATING PRESSURE FOR A TWO HOUR PERIOD.

4. CUTTING AND PATCHING

- 4.1. PROVIDE HOLES AND SLEEVES, CUTTING AND FITTING REQUIRED FOR MECHANICAL WORK. RELOCATE IMPROPERLY LOCATED HOLES AND SLEEVES.
4.2. DRILL FOR EXPANSION BOLTS, HANGER RODS, BRACKETS, AND SUPPORTS.
4.3. OBTAIN WRITTEN APPROVAL FROM STRUCTURAL CONSULTANT BEFORE CUTTING OR BURNING STRUCTURAL MEMBERS. A SPECIALIST TRADE SHALL CARRY OUT THIS WORK.

- 5. SHOP DRAWINGS
5.1. SUBMIT SHOP DRAWINGS FOR EVERY PIECE OF MECHANICAL EQUIPMENT.
5.2. IDENTIFY MATERIALS AND EQUIPMENT BY MANUFACTURER, TRADE NAME AND MODEL NUMBER. INCLUDE COPIES OF APPLICABLE BROCHURE OR CATALOG MATERIAL. DO NOT ASSUME APPLICABLE CATALOGUES ARE AVAILABLE IN THE CONSULTANT'S OFFICE. MAINTENANCE AND OPERATING MANUALS ARE NOT SUITABLE SUBMITTAL MATERIAL.
5.3. CLEARLY MARK SUBMITTAL MATERIAL USING ARROWS, UNDERLINING OR CIRCLING TO SHOW DIFFERENCES FROM SPECIFIED, E.G. RATINGS, CAPABILITIES AND OPTIONS BEING PROPOSED. CROSS OUT NON-APPLICABLE MATERIAL. INCLUDE DIMENSIONAL AND TECHNICAL DATA SUFFICIENT TO CHECK IF EQUIPMENT MEETS THE REQUIREMENTS. INCLUDE WIRING, PIPING, AND SERVICE CONNECTION DATA AND MOTOR SIZES.
5.4. INSTALLED MATERIALS AND EQUIPMENT SHALL MEET SPECIFIED REQUIREMENTS REGARDLESS OF WHETHER OR NOT SHOP DRAWINGS ARE REVIEWED BY THE CONSULTANT.
5.5. SHOP DRAWINGS NOT REQUESTED WILL NOT BE REVIEWED AND PROCESSED BY THE CONSULTANT.
5.6. DO NOT ORDER EQUIPMENT OR MATERIAL UNTIL THE CONSULTANT HAS REVIEWED AND RETURNED SHOP DRAWINGS.
5.7. SHOP DRAWINGS SHALL BE ENDORSED BY THE GENERAL CONTRACTOR AND MECHANICAL SUB-CONTRACTOR INDICATING THAT THE SHOP DRAWINGS HAVE BEEN REVIEWED AND SUBMITTED WITHOUT QUALIFICATIONS.
5.8. SUBMIT DIGITAL COPIES OF SHOP DRAWINGS WITHIN FOURTEEN (14) DAYS AFTER AWARD OF CONTRACT.

- 6. STANDARDS OF MATERIALS, EQUIPMENT AND INSTALLATION
6.1. EQUIPMENT USED SHALL NOT EXCEED SPACE LIMITATIONS IN ANY DIMENSION. REPLACE ANY EQUIPMENT OR APPARATUS THAT DOES NOT MEET THIS SPECIFICATION AT NO COST. ASSUME FULL RESPONSIBILITY FOR THE EXPENSE OF REDESIGN AND ADJUSTMENT TO OTHER PARTS OF THE BUILDING WHEN PROPOSING THE USE OF APPROVED EQUAL OR ALTERNATE EQUIPMENT.
6.2. PROVIDE EQUIPMENT FROM THE SPECIFIED MANUFACTURERS. ALL MECHANICAL EQUIPMENT SHALL HAVE THE APPROVED MANUFACTURERS NAME PERMANENTLY AFFIXED TO IT.
6.3. EQUIPMENT ON ALTERNATE & APPROVED MANUFACTURERS LIST MUST BE EQUAL IN QUALITY AND PERFORMANCE TO THE MODEL SPECIFIED. IF EQUIPMENT IS NOT EQUAL, WILL BE REPLACED WITH THE SPECIFIED EQUIPMENT AT NO COST TO THE OWNER.
6.4. THE EQUIPMENT MANUFACTURER SHALL ENSURE THAT THE STRENGTH AND ANCHORAGE OF THE INTERNAL COMPONENTS OF THE EQUIPMENT EXCEEDS THE FORCE LEVEL USED TO RESTRAIN AND ANCHOR THE UNIT ITSELF TO THE SUPPORTING STRUCTURE.
6.5. PROVIDE FOLLOWING WHEN REQUESTED:
ITEMS APPROVED MANUFACTURER
BACKFLOW PROTECTION WATTS, FEBCO, CLAYTON, BEECO, WILKINS
PLUMBING DRAIN ACCESSORIES ENPOCO, ZURN, WATTS, J.R. SMITH
VALVES - CHECK SPRING LOADED MISSION, MOYES & GROVES, GRINNELL, VICTAULIC
WATER PRESS REDUCING VALVES WILKINS, SINGER, WATTS, CLAYTON, BERMAID

- 7. PERFORMANCE VERIFICATION OF INSTALLED EQUIPMENT
7.1. INSTALLED MECHANICAL EQUIPMENT WHOSE PERFORMANCE IS QUESTIONED BY THE CONSULTANT, MAY BE SUBJECT TO PERFORMANCE VERIFICATION AS SPECIFIED HEREIN.
7.2. WHEN PERFORMANCE VERIFICATION IS REQUESTED, EQUIPMENT SHALL BE TESTED TO DETERMINE COMPLIANCE WITH SPECIFIED PERFORMANCE REQUIREMENTS.
7.3. THE CONSULTANT SHALL APPROVE TESTING PROCEDURES.
7.4. SHOULD TEST RESULTS REVEAL THAT EQUIPMENT DOES NOT MEET SPECIFIED PERFORMANCE REQUIREMENTS, EQUIPMENT WILL BE REJECTED AND THE FOLLOWING SHALL APPLY:
7.4.1. REMOVE REJECTED EQUIPMENT. REPLACE WITH EQUIPMENT THAT MEETS REQUIREMENTS OF CONTRACT DOCUMENTS INCLUDING SPECIFIED PERFORMANCE REQUIREMENTS.

- 7.4.2. REPLACEMENT EQUIPMENT WILL BE SUBJECT TO PERFORMANCE VERIFICATION AS WELL, USING SAME TESTING PROCEDURES ON ORIGINALLY INSTALLED EQUIPMENT.
7.4.3. CONTRACTOR SHALL PAY ALL COSTS RESULTING FROM PERFORMANCE VERIFICATION PROCEDURE.

- 8. OPERATING AND MAINTENANCE DATA
8.1. INSTRUCT THE BUILDING OPERATORS IN THE OPERATION AND PREVENTATIVE MAINTENANCE OF EACH PIECE OF EQUIPMENT AND SYSTEM SUPPLIED AND INSTALLED. COMPLETE AND TURN OVER DOCUMENTATION PRIOR TO SUBSTANTIAL PERFORMANCE.
8.2. INCLUDE SUPPLIER NAMES, ADDRESSES, AND TELEPHONE NUMBERS.
8.3. SUBMIT ONE SEARCHABLE PDF COPY AND 3 SETS O 8 x M MANUAL IN 3-RING BINDERS, TO INCLUDE THE FOLLOWING:
8.3.1. DESCRIPTION OF OPERATION.
8.3.2. SHOP DRAWING OF ALL EQUIPMENT.
8.3.3. EXTENDED WARRANTIES.
8.3.4. MAINTENANCE AND OPERATION INSTRUCTIONS.
8.3.5. LIST OF MANUFACTURERS SOURCE AND TRADE NAMES.
8.3.6. BALANCE REPORT.
8.3.7. NAME OF ENGINEER AND MECHANICAL CONTRACTOR AND PHONE NUMBER.
8.3.8. COPY OF RECORD DRAWING.
8.3.9. LIST OF INSPECTION CERTIFICATES.

- 9. RECORD DRAWINGS
9.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND KEEP ONE SET OF WHITE PRINTS, INCLUDING REVISION DRAWINGS, IN JOB SITE OFFICE.
9.2. THE RECORD DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING CHANGES AND SHALL BE RECORDED DAILY:
9.2.1. SIZE, LOCATION, ARRANGEMENT, ROUTE AND EXTENT OF DUCTWORK, PIPING, CONDUIT, FITTING, UNITS, EQUIPMENT, FITTINGS, FITTERS, CLEANOUTS, VALVES, ROUGH-IN, ETC., ABOVE AND BELOW GRADE INSIDE THE BUILDING.
9.2.2. SANITARY SEWERS; ALL SANITARY SEWERS. INVERT ELEVATIONS AND LOCATIONS TO BE GIVEN AT EACH CLEANOUT, ALSO TYPE OF MATERIAL USED.
9.2.3. STORM DRAINS & SEWERS: ALL STORM DRAINS AND SEWERS. INVERT ELEVATIONS TO BE GIVEN AT EACH MANHOLE. CLEAN OUT, CHANGE OF DIRECTION, JUNCTION, AND AT EVERY 30M RUN, ALSO TYPE OF MATERIAL USED.
9.2.4. GAS LINES: ALL PIPING OF ANY SIZE. INVERT ELEVATIONS TO BE GIVEN AT EACH JUNCTION, AT ENTRY TO BUILDING, AT CHANGE OF DIRECTION, AT HIGH AND LOW POINTS.
9.2.5. ALL SERVICES LOCATED BELOW GROUND LEVEL AND IN OR BELOW A BUILDING SLAB.
9.2.6. ALL VALVE STATIONS, TRAP STATIONS, COILS, DAMPERS AND DUCTWORK NOT EASILY ACCESSIBLE.
9.2.7. ALL CHANGES WHICH AFFECT THE OPERATION OF THE MECHANICAL SYSTEM.
9.2.8. THE AS-BUILT DAILY MARKED-UP PRINTS SHALL CONFORM TO THE STANDARDS OF THE CONTRACT DRAWINGS AND SHALL INCLUDE ALL DETAILS FROM REVISION DRAWINGS, SUPPLEMENTARY DRAWINGS, CHANGE ORDERS, ADDENDA AND SITE REVISIONS, ETC.

- 10. EQUIPMENT PROTECTION AND CLEAN-UP
10.1. PROTECT EQUIPMENT AND MATERIAL IN STORAGE ON SITE AND AFTER INSTALLATION UNTIL FINAL ACCEPTANCE. LEAVE FACTORY COVERS IN PLACE. TAKE SPECIAL PRECAUTIONS TO PREVENT ENTRY OF FOREIGN MATERIAL INTO WORKING PARTS OF PIPING AND DUCT SYSTEMS.
10.2. ALL MECHANICAL EQUIPMENT STORED ON SITE SHALL BE KEPT IN A DRY, HEATED AND VENTILATED STORAGE AREA.
10.3. OPERATE, DRAIN AND FLUSH OUT BEARINGS AND REFILL WITH NEW CHANGE OF OIL, BEFORE FINAL ACCEPTANCE.
10.4. THOROUGHLY CLEAN PIPING, DUCTS AND EQUIPMENT OF DIRT, CUTTINGS, AND OTHER FOREIGN MATERIAL.
10.5. PROTECT BEARINGS AND SHAFTS DURING INSTALLATION. GREASE SHAFTS AND SHAFTS TO PREVENT CORROSION. SUPPLY AND INSTALL NECESSARY EXTENDED NIPPLES FOR LUBRICATION PURPOSES.
10.6. ENSURE THAT EXISTING EQUIPMENT IS CAREFULLY DISMANTLED AND NOT DAMAGED OR LOST. DO NOT REUSE EXISTING MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY INDICATED.

- 11. TEMPORARY OR TRIAL USAGE
11.1. TEMPORARY OR TRIAL USAGE BY THE OWNER OF MECHANICAL EQUIPMENT SUPPLIED UNDER CONTRACT SHALL NOT REPRESENT ACCEPTANCE.
11.2. REPAIR OR REPLACE PERMANENT EQUIPMENT USED TEMPORARILY.
11.3. REPAIR OR OTHERWISE RECTIFY DAMAGE CAUSED BY DEFECTIVE MATERIALS OR WORKMANSHIP DURING TEMPORARY OR TRIAL USAGE.

- 12. CONNECTION AND INTERRUPTION TO EXISTING SYSTEMS
12.1. COORDINATE WITH OWNER ALL SHUT DOWNS AND CONNECTIONS TO EXISTING EQUIPMENT.

- 13. SITE UTILITY SERVICES
13.1. PROVIDE NEW SANITARY AND STORM SEWER SERVICES. BEFORE COMMENCING WORK CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS.
13.2. PROVIDE NEW WATER SERVICE CONNECTIONS COMPLETE WITH VALVES, BACKFLOW PREVENTORS, WATER METER AND BY-PASS VALVE. PROVIDE NECESSARY REINFORCED CONCRETE TRUST BLOCKS ON UNDERGROUND WATER PIPING AS REQUIRED.
13.3. PROVIDE NEW GAS SERVICE COMPLETE WITH GAS METERS AND REGULATORS. PROVIDE REGULATORS ON EACH LINE SERVICING GRAVITY TYPE APPLIANCE, SIZE IN ACCORDANCE WITH EQUIPMENT. (THESE REGULATORS ARE IN ADDITION TO NORMAL CONTROLS.)

- 14. LIABILITY
14.1. ASSUME FULL RESPONSIBILITY FOR LAYING OUT THE WORK AND FOR ANY DAMAGE CAUSED TO THE OWNER OF OTHER TRADES BY IMPROPER LOCATION, OR CARRYING OUT OF THE WORK.
14.2. BE RESPONSIBLE FOR PROMPT INSTALLATION OF HIS WORK IN ADVANCE OF CONCRETE POURING OR SIMILAR WORK. PROVIDE AND SET SLEEVES WHERE REQUIRED. SHOULD ANY CUTTING OR REPAIRING OF EITHER UNFINISHED OR FINISHED WORK BE REQUIRED, THIS CONTRACTOR SHALL DIRECT THE WORK WITHOUT CHARGES TO THE BUILDING AS SHOWN ON THESE PLANS. BEFORE COMMENCING THE WORK, EXAMINE THE WORK OF THE OTHER TRADES AND REPORT AT ONCE ANY DEFECT OF INTERFERENCE AFFECTING THE WORK OF THIS SECTION, OF THE GUARANTEE OF SAME. NO EXTRAS WILL BE SUBSEQUENTLY ALLOWED TO COVER ANY SUCH ERROR, OMISSION OR OVERSIGHT ON THE THOROUGH INSPECTION OF THE GROUNDS, BUILDING, CONDITIONS, ETC.
14.4. ARRANGE WORK IN CO-OPERATION WITH OTHER TRADES IN THE BUILDING IN SUCH A MANNER AS NOT TO INTERFERE WITH OTHER WORK BEING CARRIED ON IN THE BUILDING AND PLACES WHERE OTHER PIPES AND EQUIPMENT BE INSTALLED ALONG WITH THE PIPES AND DUCTS PERTAINING TO THIS TRADE. CO-OPERATE WITH THE OTHER TRADES TO GET ALL THE PIPES, DUCTS, CONDUIT, ETC., INSTALLED TO THE BEST ADVANTAGE.
14.5. WHERE ANY PIPES, DUCTS AND EQUIPMENT MUST BE BUILT INTO THE WORK OF OTHER TRADES SUCH AS MASONRY, STRUCTURAL OR PLASTERING, BE RESPONSIBLE FOR SUPPLYING THE EQUIPMENT TO BE BUILT IN OR MEASUREMENTS TO ALLOW THE NECESSARY OPENINGS TO BE LEFT. ALL PIPES AND DUCTS WHICH ARE TO BE CONCEALED SHALL BE INSTALLED NEATLY AND CLOSELY TO THE BUILDING STRUCTURE SO THAT THE NECESSARY FURRING CAN BE KEPT AS SMALL AS POSSIBLE. ANY PIPES, DUCTS, OR OTHER WORK WHICH ARE NOT, IN THE OPINION OF THE CONSULTANT, INSTALLED AS THEY SHOULD BE, SHALL BE TAKEN OUT AND REPLACED WITHOUT COST TO THE OWNER.
14.6. PROTECT FINISHED AND UNFINISHED WORK FROM DAMAGE DUE TO THE CARRYING OUT OF HIS WORK, GIVING SPECIAL ATTENTION TO THE PROTECTION OF BUILDING VAPOUR BARRIERS, WATERPROOF MEMBRANES, ETC. COVER FLOORS AND OTHER PARTS OF THE BUILDING WITH TARPULINS, ETC., AND REPAIR ALL DAMAGE TO THE SATISFACTION OF THE OWNER AND THE CONSULTANT. DURING FREEZING WEATHER, PROTECT ALL HIS MATERIALS IN SUCH A MANNER THAT NO HARM CAN BE DONE TO INSTALLATION ALREADY MADE AND/OR TO MATERIALS AND EQUIPMENT ON THE JOB.
14.7. BE RESPONSIBLE FOR THE CONDITION OF ALL MATERIALS AND EQUIPMENT SUPPLIED AND SHALL PROVIDE ALL NECESSARY PROTECTION FOR SAME.
14.8. BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF THE WORK OF THIS SECTION UNTIL THE BUILDING HAS BEEN COMPLETED AND ACCEPTED BY THE OWNER. BE RESPONSIBLE FOR THE SORTING OF HIS MATERIAL INSIDE AND OUT OF THE WAY, AND TO CLEAN UP ALL REFUSE CAUSED BY HIS WORK TO MEET CONSULTANT'S REVIEW.
14.9. ON COMPLETION OF THE WORK, ALL TOOLS, SURPLUS AND WASTE MATERIALS SHALL BE REMOVED AND THE WORK LEFT IN A CLEAN CONDITION.

- 15. LIABILITY INSURANCE
15.1. THIS CONTRACTOR SHALL MAINTAIN SUCH INSURANCE AS WILL FULLY PROTECT BOTH THE OWNER AND HIMSELF FROM ANY AND ALL CLAIMS, ALL AS NOTED WITHIN THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS. WHEN REQUESTED THE CONTRACTOR SHALL PROVIDE AND SHOW PROOF OF, AT HIS EXPENSE, COMPREHENSIVE GENERAL LIABILITY INSURANCE OF NOT LESS THAN \$5,000,000.00 INCLUDING NON-OWNED CAR COVERAGE, CONTRACTUAL LIABILITY AND CONTAINING A CROSS LIABILITY CLAUSE. COVERAGE

- SHALL INCLUDE LOSS OR DAMAGE THE CONTRACTOR MAY CAUSE TO ANY WORK, BUILDING, EQUIPMENT, AND STRUCTURAL, ON THE OWNER'S PROPERTY, THE INSURANCE MAY CONTAIN A DEDUCTIBLE CAUSE NOT TO EXCEED \$500.00.
15.2. THE CONTRACTOR SHALL CARRY FULL EMPLOYEE'S LIABILITY INSURANCE FOR THE WHOLE OF THE WORK IN ACCORDANCE WITH THE WORKERS' COMPENSATION ACT.

- 16. GUARANTEE WARRANTY
16.1. THIS CONTRACTOR SHALL FURNISH A WARRANTY FOR ALL WORK EXECUTED UNDER THIS DIVISION WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL PERFORMANCE, WHICH SHALL INCLUDE ONE (1) COMPLETE SUMMER AND ONE (1) COMPLETE WINTER OF UNINTERRUPTED OPERATION. WARRANTY SHALL INCLUDE ANY PART OF EQUIPMENT, UNITS OR STRUCTURES FURNISHED HEREUNDER THAT SHOW THE WORKS UNDER NORMAL OPERATING CONDITIONS AND/OR FOR THE PURPOSE OF WHICH THEY WERE INTENDED.
16.2. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY INVESTIGATE ANY MECHANICAL OR CONTROL MALFUNCTION, AND REPAIR OR REPLACE ALL SUCH DEFECTIVE WORK, AND ALL OTHER DAMAGES THEREBY WHICH BECOMES DEFECTIVE DURING THE TIME OF THE GUARANTY-WARRANTY.

- 17. SUBSTANTIAL PERFORMANCE INSPECTION
17.1. PRIOR TO THE CONTRACTOR REQUESTING AN INSPECTION FOR SUBSTANTIAL PERFORMANCE ALL THE FOLLOWING ITEMS MUST BE PROVIDED TO PERMIT BENEFICIAL USE BY THE OWNER.
17.1.1. COMPLY WITH REQUIREMENTS IN GENERAL CONTRACT CONDITIONS.
17.1.2. MAINTENANCE AND OPERATING MANUALS TO BE SUBMITTED AND APPROVED.
17.1.3. RECORD DRAWINGS.
17.1.4. BALANCING REPORTS (AIR AND WATER.)
17.1.5. A COMPLETE LIST OF ITEMS THAT THE CONTRACTOR HAS NOT FINISHED, OR ARE DEFICIENT, SHALL BE PROVIDED, IF IN THE OPINION OF THE CONSULTANT, THIS LIST INDICATES THE PROJECT IS EXCESSIVELY INCOMPLETE, A SUBSTANTIAL COMPLETION INSPECTION WILL NOT BE PERFORMED.
17.1.6. STARTUP REPORTS.
17.1.7. CERTIFICATES FOR BACKFLOW DEVICES, FIRE PROTECTION SYSTEM AND AS REQUIRED.
17.2. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ACCUMULATE ALL NECESSARY DATA FROM HIS SUB-TRADES AND SUPPLIERS AND PRESENT SAME IN THE SPECIFIED FORMAT FOR THE APPROVAL BY THE CONSULTANT.

- 18. LAWS, NOTICES, PERMITS AND FEES
18.1. GIVE ALL NECESSARY NOTICES, OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES IN ORDER THAT THE WORK SPECIFIED MAY BE CARRIED OUT, AND FURNISH ANY CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAW AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
18.2. ALL WORK SHALL BE IN ACCORDANCE WITH THE REGULATIONS OF THE FOLLOWING AUTHORITATIVE BODIES, THE CODES IN EFFECT AT THE TIME OF TENDER, AND ANY OTHERS HAVING JURISDICTION:
18.2.1. CANADIAN ELECTRICAL CODE
18.2.2. NATIONAL BUILDING CODE OF CANADA AND LOCAL BUILDING BY-LAWS
18.2.3. WORKERS' COMPENSATION BOARD
18.2.4. CANADIAN STANDARDS ASSOCIATION
18.2.5. NATIONAL PLUMBING CODE
18.2.6. UNDERWRITERS' LABORATORIES OF CANADA

- 19. DEMONSTRATION AND INSTRUCTION TO OWNER
19.1. DEMONSTRATE TO AND INSTRUCT THE REPRESENTATIVE DESIGNATED BY THE OWNER ON THE COMPLETE SYSTEMS OPERATING AND MAINTENANCE PROCEDURES.

- 20. INSPECTION
20.1. THE CONSULTANT OR HIS REPRESENTATIVE MAY CHOOSE TO INSPECT ALL WORK PRIOR TO IT BEING CONCEALED. ALL WORK SHALL BE APPROVED BY ANY OTHER REGULATORY BODY HAVING JURISDICTION. ALL PIPING BELOW GROUND MUST BE APPROVED PRIOR TO COVERING. ALL PIPING IN WALL SPACES MUST BE APPROVED PRIOR TO BOARDING. ALL OPENINGS SHALL BE SEALED APPROPRIATELY IN PARTICULAR IN FIRE RATED WALLS AND FLOORS. SEALING SHALL BE APPROVED PRIOR TO COVERING.
20.2. PROVIDE A MINIMUM OF 48 HOURS NOTICE TO CONSULTANT FOR REQUIRED INSPECTION.

B. COMMISSIONING

- 1. MECHANICAL CONTRACTOR SHALL PROVIDE TRAINING ON PLUMBING SYSTEM.
2. MECHANICAL CONTRACTOR TO SUPPLY TO ENGINEER SIGNED OFF COMMISSIONING REPORT c/w THE OWNERS SIGNATURE ON ALL MECHANICAL SYSTEMS.
3. CONTROLS CONTRACTOR TO PROVIDE TRAINING TO OWNER, PROVIDE SIGNED OFF COPY OF REPORT TO ENGINEER.

C. PLUMBING

- 1. TO COMPLY WITH NATIONAL PLUMBING CODE AND LOCAL MUNICIPALITY REQUIREMENTS.
2. ENTIRE SYSTEM MUST BE ABLE TO BE COMPLETELY DRAINED ANNUALLY FOR FREEZE PROTECTION. PROVIDE CONNECTIONS FOR CONDENSED AIR FITTING AS NECESSARY.
3. PRIOR TO COMMENCING THE UNDERGROUND PLUMBING INSTALLATION EXCAVATE AND VERIFY:
3.1. LOCATION, ELEVATION AND SIZE OF STORM AND SANITARY SERVICE CONNECTIONS.
3.2. THE SANITARY AND STORM LINES CAN BE ROUTED AND SUFFICIENTLY SLOPED WITH ADEQUATE COVER FOR FREEZING PROTECTION TO MEET THE SERVICE CONNECTIONS.
3.3. INFORM THE ENGINEER IMMEDIATELY IF ANY CHANGES ARE REQUIRED.
4. PROVIDE STAINLESS STEEL BELLOW TYPE WATER HAMMER ARRESTORS ON WATER LINES CONNECTED TO CLOTHES WASHER AND DISHWASHER AND AT TOP OF RISERS. ZURN MODEL OR APPROVED EQUAL.
5. PROVIDE AND INSTALL CLEANOUTS WHERE SHOWN ON DRAWINGS AND AS REQUIRED BY CODE AND GOVERNING AUTHORITIES. CLEANOUTS SHALL BE SPACED MAXIMUM 50 FEET APART.
6. PROVIDE ANY EXCAVATIONS NECESSARY FOR THE INSTALLATION OF THE MECHANICAL WORK. NO EXCAVATING NECESSARY FOR THIS WORK WHICH MAY INTERFERE WITH THE PROGRESS OF THE WORK IN ANY WAY SHALL BE UNDERTAKEN WITHOUT THE APPROVAL OF THE CONSULTANT. TRENCHES FOR ALL UNDERGROUND PIPING SHALL BE EXCAVATED TO A DEPTH SLIGHTLY MORE THAN REQUIRED AND GRADED SO AS TO SECURE ALL AVAILABLE FALL. SUPPORT EACH LENGTH OF PIPE WITH CONCRETE BLOCKS AND BRICKS, OR BACKFILL THE TRENCH WITH GRAVEL TO THE REQUIRED DEPTH AND GRADE. SANITARY AND STORM LINES OUTSIDE OF THE BUILDING SHALL BE KEPT AS DEEP AS PRACTICAL.
7. BACKFILLING IN ALL TRENCHES SHALL BE WITH SAND OR PEA GRAVEL WHERE APPROVED, 150mm BELOW PIPE AND UP TO 150mm OVER TOP OF PIPING, THEN FLUSHED WITH WATER SO AS TO ENSURE THE TOTAL LENGTH OF EACH PIPE IS RESTING ON SOLID FOOTING. THE GENERAL CONTRACTOR SHALL FILL REMAINDER OF ALL TRENCHES.
8. PROVIDE NON-CONDUCTING TYPE CONNECTION FOR JOINING OR SUPPORTING DISSIMILAR METALS.
9. PROVIDE STOP VALVE TO ALL EQUIPMENT AND PLUMBING FIXTURE CONNECTION. PROVIDE STOP VALVE TO BASE OF WATER RISERS.
10. PROVIDE CLEANING AND FLUSHING OF WATER SYSTEM PRIOR TO TURN OVER.
11. PIPE - DUCTILE IRON
11.1. WATER SUPPLY PIPING FROM CITY MAIN TO INSIDE MANIFOLD SHALL BE DUCTILE IRON.
11.2. FITTINGS: ROLL GROOVED TO CSA B242 AND ANSI/ASME B16.4
11.3. JOINTS: ROLL GROOVE COUPLINGS WITH DUCTILE IRON HOUSINGS, GRADE E EPDM FLUSH SEAL GASKET AND HEAT TREATED CARBON STEEL BOLTS/NUTS TO ASTM A183. VICTAULIC IS ACCEPTABLE.
12. PIPE - COPPER
12.1. WATER SUPPLY PIPING FROM INSIDE CABINET/SUMP TO SUPPLY LINES IS TO BE COPPER TUBE, TYPE L, HARD DRAWN TO ASTM B88M.
12.2. FITTINGS: CAST BRONZE THREADED FITTINGS: TO ANSI/ASME B16.15.
12.3. WROUGHT COPPER AND COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS: TO ANSI/ASME B16.22.
12.4. CAST IRON THREADED FITTINGS: TO ANSI/ASME B16.4
13. PIPE - PEX-A
13.1. WATER SUPPLY PIPING FROM MANIFOLD TO NOZZLES SHALL BE PEX-A ENGEL METHOD MEETING THE FOLLOWING STANDARD : ASTM F876/F877, CSA B137.5 ET NSF61, CAN/ULC S101, S102.2, S115 AND PPI TR-400.
13.2. FITTINGS TO STANDARD ASTM F1960 COLD EXPANSION USING PEX RINGS.
13.3. SUBMIT CSA LISTING THAT THE PEX TUBING, PEX RINGS AND PEX FITTINGS FROM THE SAME MANUFACTURER HAVE BEEN TESTED TOGETHER AND CERTIFIED AS A SYSTEM.
13.4. COMPLY WITH MANUFACTURER'S PRODUCT DATA, INCLUDING PRODUCT TECHNICAL BULLETINS, INSTALLATION INSTRUCTIONS AND PRODUCT CARTON INSTRUCTIONS FOR INSTALLATION.
13.5. INSTALLER SHALL BE RECOGNIZED BY THE TUBING/FITTING MANUFACTURER AS A TRAINED INSTALLER.
13.6. PIPE, FITTINGS AND RINGS TO HAVE A 25 YEARS WARRANTY AGAINST MANUFACTURER'S DEFECT.
13.7. THE ASTM F1960 CONNECTION MUST BE COVERED BY A 25 YEAR WARRANTY FROM THE MANUFACTURER AGAINST LEAKS AND INCIDENTAL DAMAGES, THIS ENDORSED BY INSURANCE COMPANIES.
13.8. ACCEPTABLE MANUFACTURER : UPONOR, HEATLINK.

- 13.9. PVC PIPING SHALL HAVE FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT INDEX OF 50.
14. PIPE - PVC
14.1. ALL DRAINAGE PIPING SHALL BE PVC.
14.2. JOINTS: SOLVENT WELD TO ASTM D2564.
14.3. INSTALL PIPE ON 150mm OF CRUSHER DUST.
15. BALL VALVES:
15.1. CLASS: 125, TO ASTM B62
15.2. BODY AND CAP: HIGH TENSILE BRONZE.
15.3. 50mm AND UNDER: SCREWED ENDS TO ANSI B1.20.1
15.4. ACCEPTABLE MATERIALS: CRANE, JENKINS 901 FJ, TOYO.
16. CHECK VALVES:
16.1. CLASS: 125
16.2. BODY: CAST HIGH TENSILE BRONZE TO ASTM B62.
16.3. 2" (50mm) AND UNDER: SCREWED ENDS TO ANSI B1.20.1 AND WITH HEXAGONAL SHOULDERS.
16.4. DISC AND SEAT: RENEWABLE ROTATING DISC.
16.5. SPRING: HEAVY DUTY STAINLESS STEEL.
16.6. ACCEPTABLE MATERIALS: DURABLE GLC, CRANE, TOYO.
17. STRAINERS:
17.1. BRONZE BODY TO ASTM B62, SCREWED CONNECTIONS, WYE PATTERN.
17.2. 50mm AND UNDER: SCREWED ENDS WITH HEXAGONAL SHOULDERS.
17.3. STRAINER: STAINLESS STEEL
17.4. ACCEPTABLE MATERIALS: WATTS
18. INSTALLATION:
18.1. ALL PIPES ARE TO HAVE A MINIMUM 1% SLOPE FOR PROPER WINTERIZATION.
18.2. DRAINAGE LINES ARE RECOMMENDED TO BE SDR 35 MINIMUM, PROVIDED THE LOCAL AUTHORITY APPROVES.
18.3. PIPING SHOULD BE INSPECTED AFTER TRANSPORTATION FOR CUTS, SCRATCHES, SOUCES, OR SPLITS; DAMAGED SECTIONS MUST BE DISCARDED OR CUT OUT.
18.4. PIPE SHALL BE INSTALLED MINIMUM 300mm BELOW FROST LEVEL (ASTM F-645).
18.5. MINIMUM 50 PSI IS REQUIRED AT INLET OF BACKFLOW PREVENTER.
19. FLUSHING AND CLEANING:
19.1. FLUSH ENTIRE SYSTEM FOR 8 H.
19.2. LET STAND FOR 24 H, THEN DRAW SAMPLE OFF LONGEST RUN.
19.3. SUBMIT TO TESTING LABORATORY TO VERIFY THAT SYSTEM IS CLEAN TO POTABLE WATER GUIDELINES AS SET OUT BY THE AUTHORITY HAVING JURISDICTION.
19.4. LET SYSTEM FLUSH FOR ADDITIONAL 2 H, THEN DRAW OFF ANOTHER SAMPLE FOR TESTING.



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Table with 4 columns: No, Issued For Tender, Description, Date, By. Row 0: Issued for tender, 2026.06.17, Job

Revision or Issue

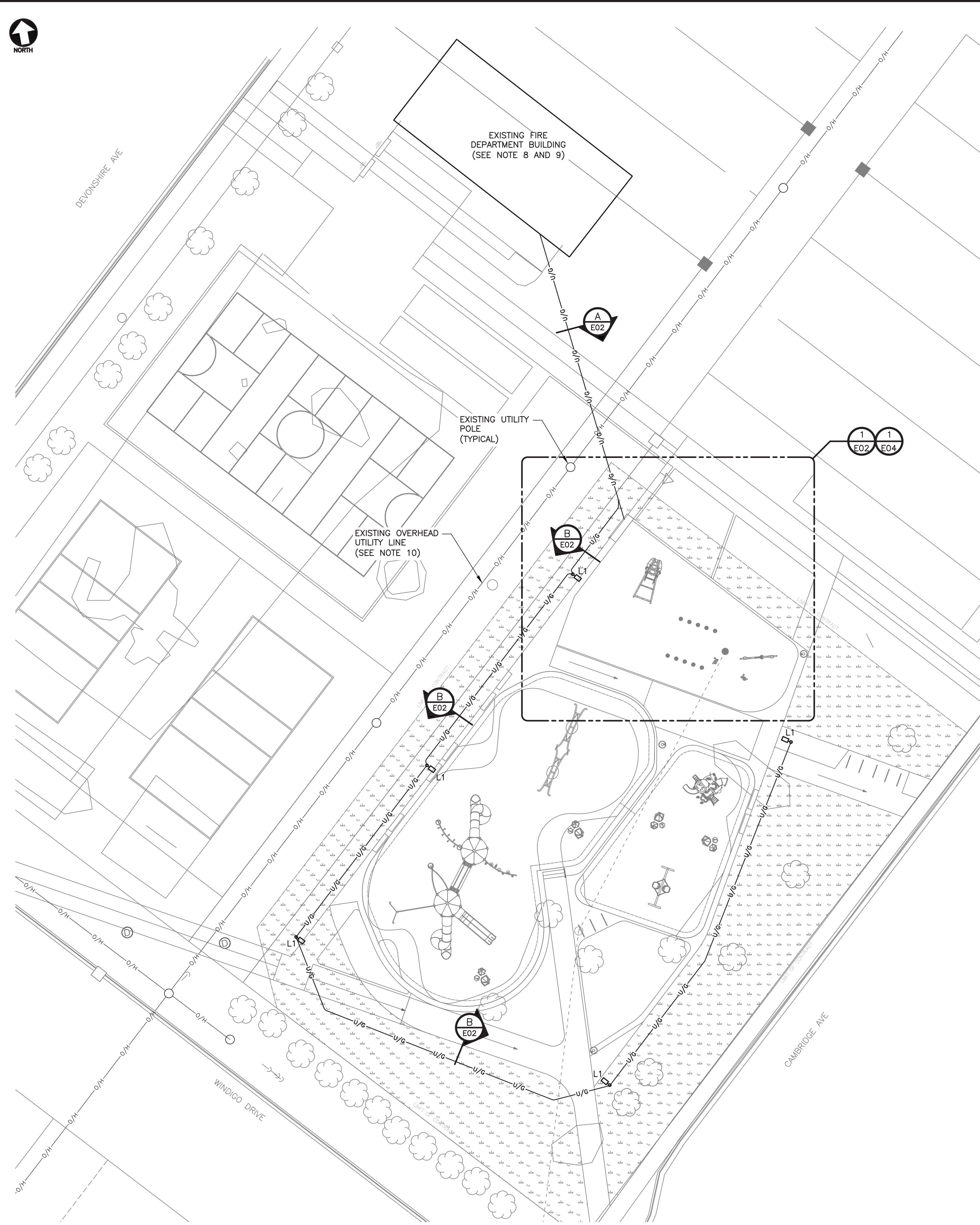
THE TOWN OF IROQUOIS FALLS

DEVONSHIRE PARK SPLASHPAD

MECHANICAL

SPECIFICATIONS

CBCL logo and professional engineer seal for R. HARALAMPIEV, 10077378, Province of Ontario. Includes contract details: Contract No 263241.00, Date MAY 2026, Scale, Drawing No M02 of 2.

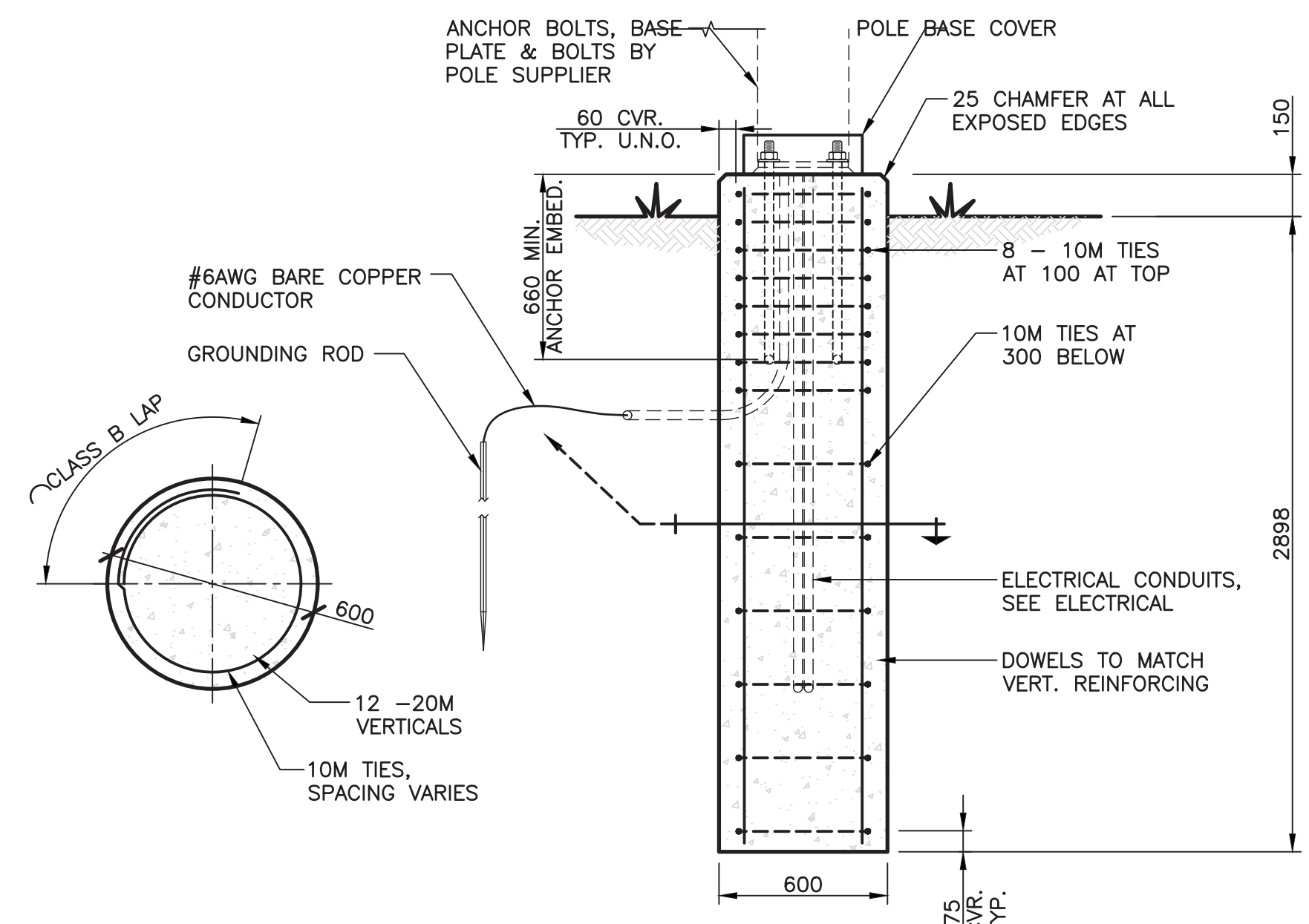


1 SITE PLAN—SITE ELECTRICAL LAYOUT
 1:200
 0 4.0 8.0 12.0 16.0 20.0m
 1:200

LEGEND	
	MISCELLANEOUS EQUIPMENT (TYPE AS INDICATED)
	CIRCUIT BREAKER (TYPE AS INDICATED)
	POLE MOUNTED AREA LIGHT
	PHOTOCELL SENSOR
	UNDERGROUND CONDUIT
	UNDERGROUND BONDING WIRE
	OVERHEAD UTILITY LINE

PROJECT LOCATION
 KEY PLAN N.T.S.

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DETAIL NOTES

- A. ALL CONCRETE, CONCRETE MATERIALS, FORMS, WORKING PROCEDURES AND THE LIKE SHALL CONFORM TO CSA A23.1, LATEST EDITION, UNLESS OTHERWISE NOTED.
- B. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS AND CLASS OF EXPOSURE SHALL BE 35MPa/C-1 AND VIBRATED.
- C. CONCRETE PROTECTIVE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:
 .1 CAST AGAINST GROUND - NO FORMWORK 75mm
 .2 EXPOSED TO EARTH OR WEATHER 60mm
- D. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD POINT STRENGTH OF 400 MPa AND SHALL CONFORM TO CSA G30.18M, LATEST EDITION.
- E. CONCRETE SHALL BE AIR-ENTRAINED (5-8%) FOR FREEZE-THAW EXPOSURE.
- F. UNLESS NOTED OTHERWISE, REINFORCING STEEL SHALL BE PROVIDED WITH A CLASS 'B' TENSION LAP TO CSA A23.3 LATEST EDITION AT ALL SPLICE LOCATIONS BASED ON BAR SIZE, CONCRETE STRENGTH, AND EXPOSURE CLASS.
- G. THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW:
 .1 LIGHT STANDARD FOUNDATION DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED OR LICENSED TO PRACTICE ON THE PROVINCE OF ONTARIO.
- H. THIS DETAIL IS CONCEPTUAL DETAILS AND HAS BEEN PRESENTED FOR BIDDING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN OF THE FOUNDATION BASED ON THE FINAL LIGHT FIXTURE AND LIGHT POLE SECTION.
- I. ANCHOR BOLTS SHALL BE INSTALLED USING TEMPLATE PROVIDED BY POLE SUPPLIER AND SHALL BE SET PLUMB WITHIN ±1:100 TOLERANCE. NON-SHRINK GROUT SHALL BE PROVIDED UNDER BASE PLATE. ANCHOR BOLT EMBEDMENT AND PROJECTION SHALL MATCH SUPPLIER REQUIREMENTS.
- J. TOP OF FOUNDATION SHALL BE TROWELLED SMOOTH AND LEVEL.
- K. MINIMUM OF TWO SLEEVES REQUIRED FOR EACH CONCRETE FOUNDATION UNLESS OTHERWISE SHOWN.
- L. CONTRACTOR TO VERIFY OPENING SIZE IN POLE'S BASE PLATE PRIOR TO SETTING CONDUIT SLEEVES.
- M. MINIMUM BENDING RADIUS OF ALL CONDUITS SHALL BE SIX TIMES THE DIAMETER OF THE CONDUITS.
- N. CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 25mm. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
- O. BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUITS EXPOSED AT THE TOP OF THE CONCRETE BASE AND BEFORE INSTALLATION OF CABLE OR WIRE.
- P. ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- Q. ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.
- R. GROUNDING CONDUCTOR SHALL BE INSTALLED LEAVING A 600mm LENGTH OF WIRE ABOVE THE CONCRETE BASE. THE 600mm LENGTH OF EQUIPMENT GROUNDING CONDUCTOR ABOVE THE BASE SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.
- S. ALL DIMENSIONS RELATING TO THE EXISTING CONDITIONS SHALL BE FIELD VERIFIED. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWINGS. DIMENSIONS FOR BOLTS, BOLT CENTERS AND LOCATION ARE PROVIDED FOR INFORMATION ONLY AND SHOULD BE VERIFIED BY THE EQUIPMENT SUPPLIER PRIOR TO INSTALLING AND POURING.
- T. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST TWO WORKING DAYS PRIOR TO POURING SO THE ENGINEER MAY CONDUCT AN APPROPRIATE JOB SITE REVIEW.

2 DETAIL— TYPICAL LIGHT STANDARD FOUNDATION
 N.T.S.

NOTES:

- 1. DIMENSIONS ARE IN MILLIMETRES UNLESS INDICATED OTHERWISE.
- 2. THE CONTRACTOR IS TO CONTACT THE MUNICIPALITY, UTILITY, AND SERVICE PROVIDERS TO COORDINATE FIELD LOCATES OF SERVICES BEFORE STARTING CONSTRUCTION.
- 3. ELECTRICAL CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS FOR ELECTRICAL WORK, DUCTWORK AND WIRING INSTALLATIONS, AND ARRANGE FOR ALL REQUIRED DUCTBANK INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION.
- 4. ALL WORK & MATERIALS TO CONFORM TO THE REQUIREMENTS OF THE ONTARIO ELECTRICAL SAFETY CODE 2024 AND UTILITY UNDERGROUND DISTRIBUTION STANDARD (AS APPLICABLE).
- 5. ALL THE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT OF ONTARIO.
- 6. ALL MATERIAL MUST BE NEW AND CSA APPROVED.
- 7. ALL ELECTRICAL WORK TO BE DONE BY LICENSED ELECTRICAL CONTRACTOR.
- 8. ELECTRICAL SITE PLAN AND CONDUIT LAYOUTS ARE SCHEMATIC IN NATURE. CONTRACTOR TO VERIFY AND COORDINATE WITH OTHER TRADES TO LAYOUT ALL CONDUITS IN SUITABLE LOCATIONS.
- 9. TIE INTO EXISTING CONDUITS AT FIRE DEPARTMENT BUILDING AND COORDINATE WITH OWNER FOR THE PROVISION OF THREE (3) 15A, 120V CIRCUITS PROTECTED BY CLASS A GFCI BREAKERS.
 - 1H (LUMIFLOW POWERPACK)
 - ID2 (MAESTRO PRO POWER BOX)
 - SITE LIGHTING
- 10. RUN AND CONNECT SPLASH PAD GROUNDING CONDUCTORS TO FIRE DEPARTMENT BUILDING MAIN SERVICE GROUND. COORDINATE INSTALLATION WITH OWNER AND AHJ.
- 11. CONFIRM LIMITS OF SPLASH PAD ARE FURTHER THAN 5m FROM CLOSEST OVERHEAD CONDUCTOR PRIOR TO EXECUTING WORK. COORDINATE INSTALLATION OF UNDERGROUND DUCTBANK WITHIN LIMITS OF UTILITY EASMENT WITH ELECTRICAL UTILITY AND AUTHORITY HAVING JURISDICTION.



No.	Description	Date	By
0	ISSUED FOR TENDER	2026.06.17	JD

Revision or Issue

THE TOWN OF IROQUOIS FALLS

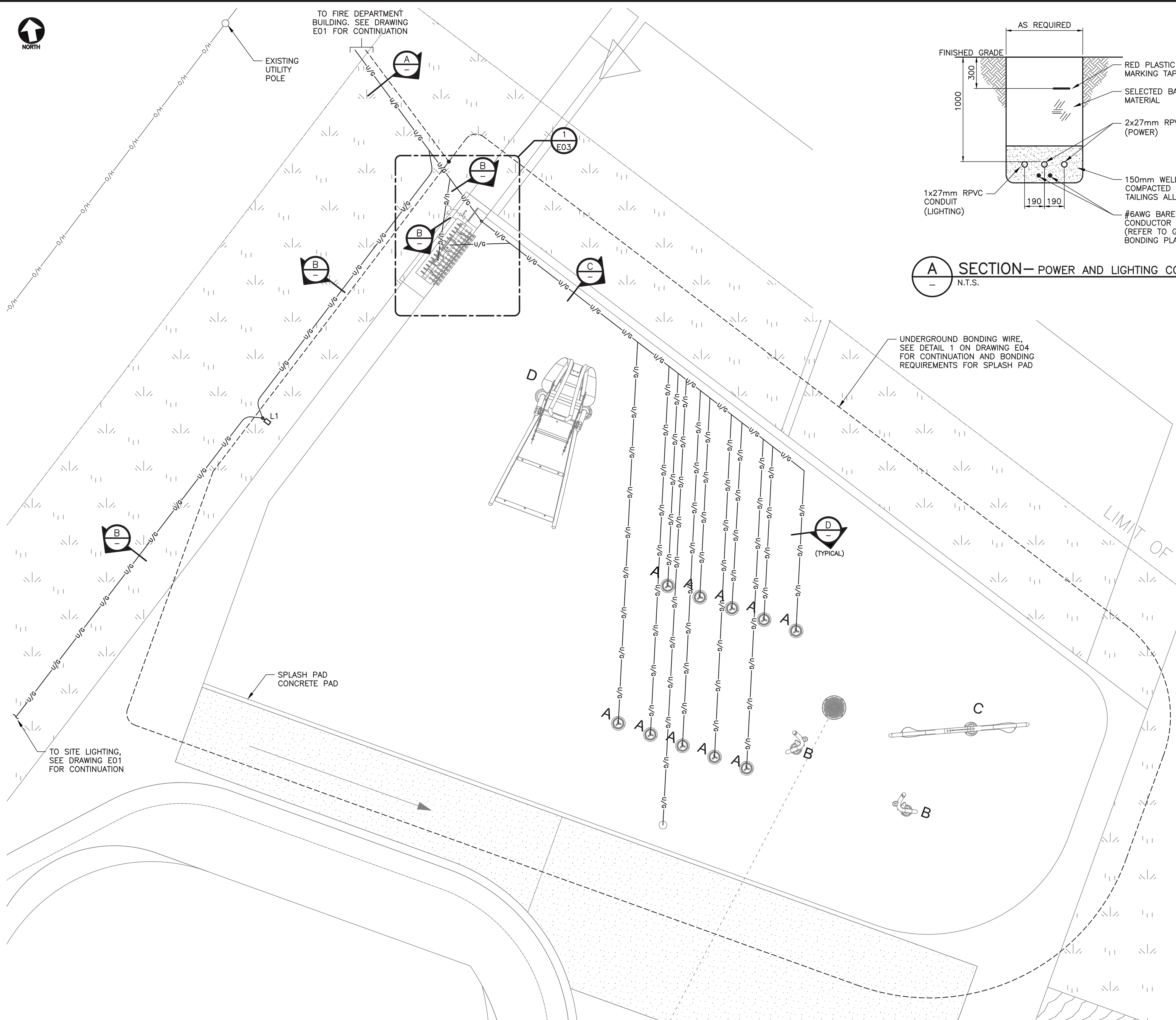
DEVONSHIRE PARK SPLASHPAD

ELECTRICAL

LEGEND AND SITE ELECTRICAL LAYOUT



Contract No	263241.00
Date	MAY/26
Scale	AS NOTED
Designed	MRM
Drawn	MLB
Checked	RR
Approved	DB
Sheet No	1 of 4
Drawing No	E01



A SECTION— POWER AND LIGHTING CONDUIT TRENCH
N.T.S. (SEE NOTE 1)

B SECTION— TYPICAL LIGHTING/POWER CONDUIT TRENCH
N.T.S. (SEE NOTE 1)

C SECTION— SPLASH PAD CONDUIT TRENCH
N.T.S. (SEE NOTE 1)

D SECTION— TYPICAL SPLASH PAD POWER CONDUIT TRENCH
N.T.S. (SEE NOTE 1)

SPRAY NOZZLE SCHEDULE

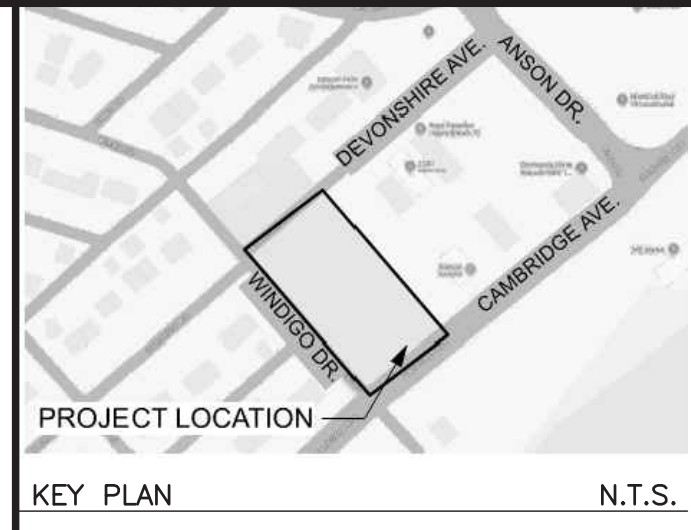
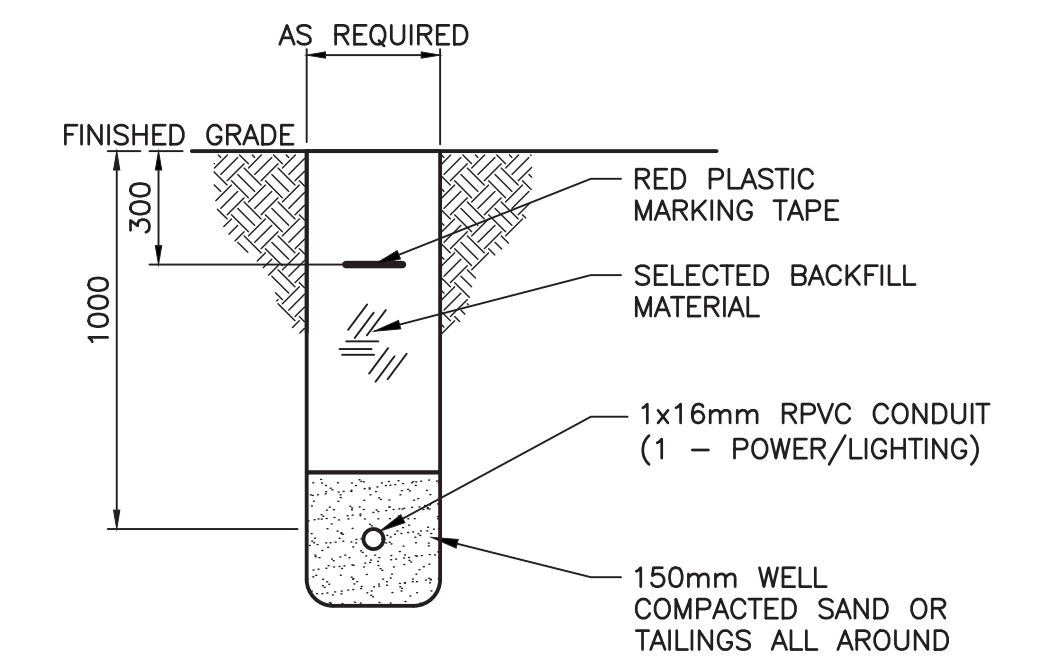
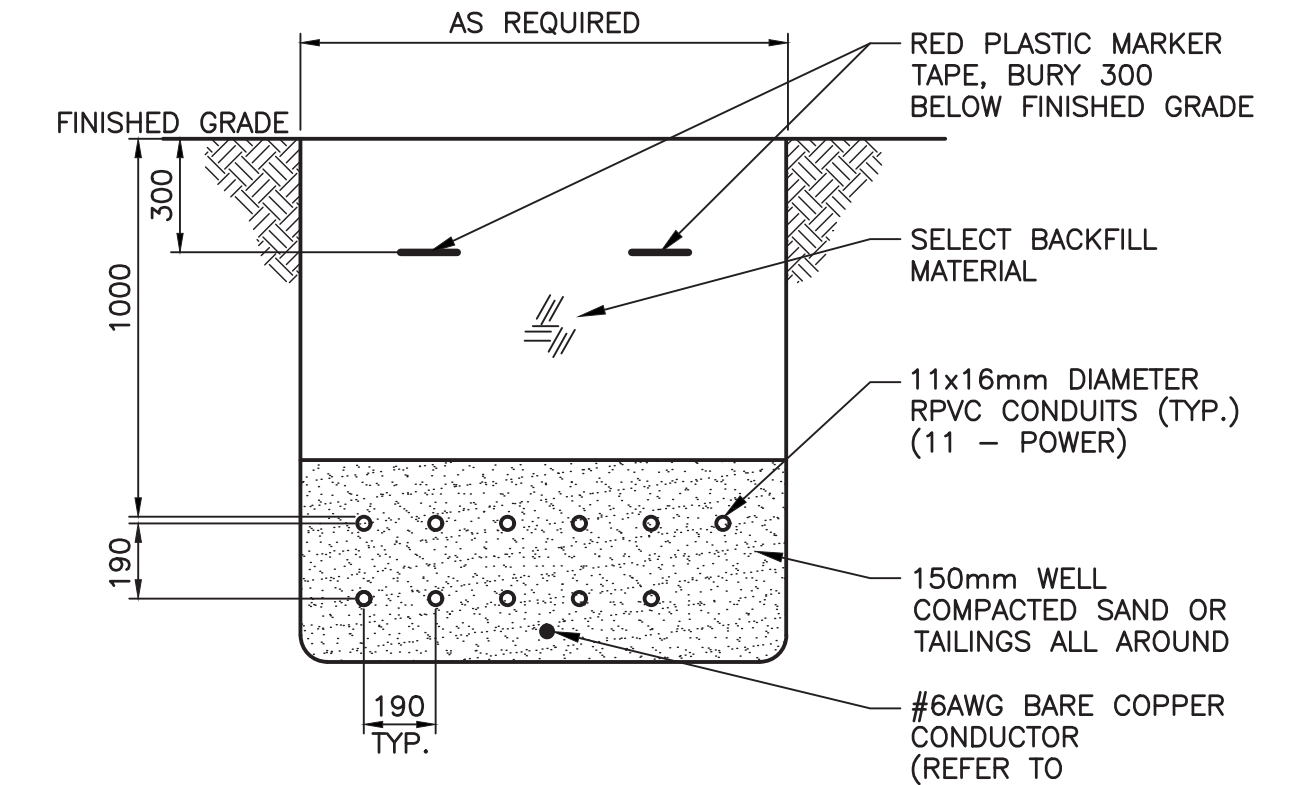
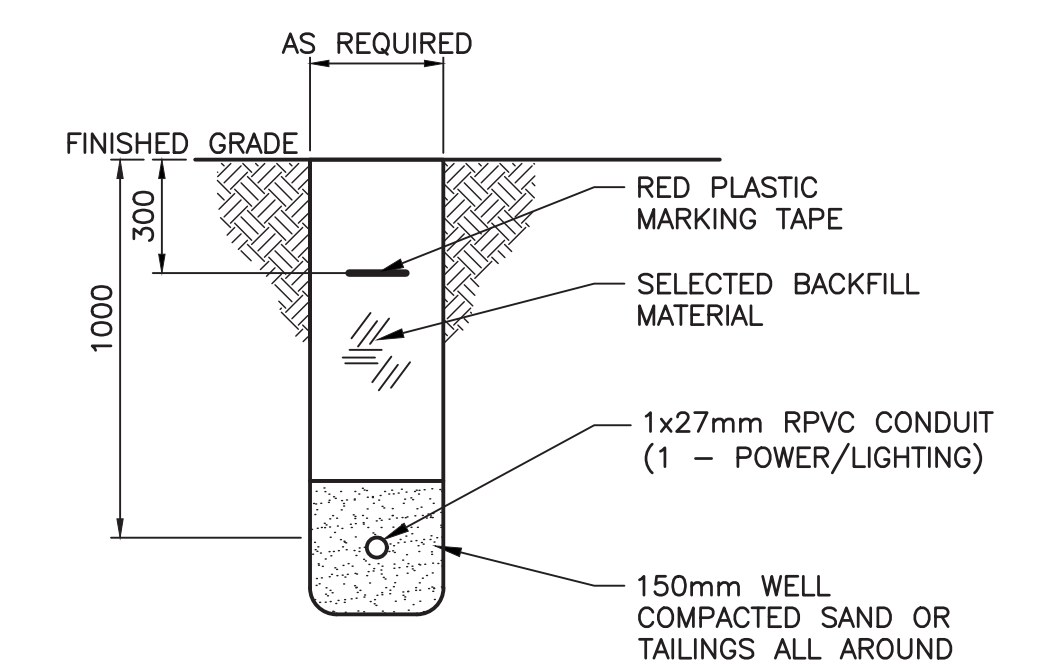
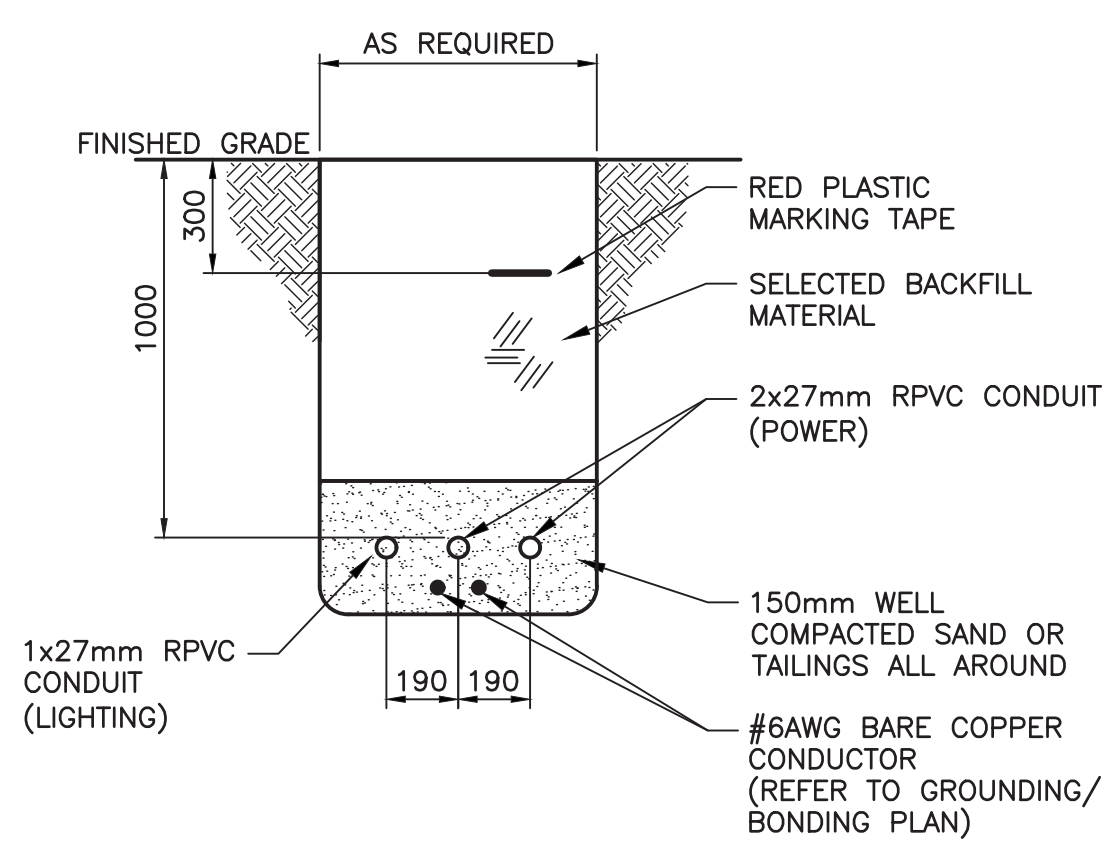
A	COREPLAY SUNSET WITH INTEGRAL LED LUMINAIRE
B	SEAWEED No. 3 – NO ELECTRICAL CONNECTION
C	SEA SILHOUETTE TURTLE – NO ELECTRICAL CONNECTION
D	SUPERWAVE – NO ELECTRICAL CONNECTION

NOTES:
1. BACKFILL PARTICLES SHALL BE LESS THAN 38mm AND BACKFILL SHALL BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY TO ASTM D698.

1 ENLARGED PLAN— SPLASH PAD ELECTRICAL LAYOUT
1:50

LUMINAIRE SCHEDULE AND SPECIFICATION									
TYPE	DESCRIPTION	MOUNTING	SOURCE	COLOUR TEMPERATURE (K)	COLOUR RENDERING INDEX (CRI)	INPUT VOLTAGE	FIXTURE WATTAGE	DRIVER TYPE	STANDARD OF ACCEPTANCE
L1	EXTERIOR LED POST TOP LUMINAIRE, FLAT LENS, ROUND SHAPE, FOUR (4) ARMS WITH BUILT-IN MECHANICAL RING, DIE CAST ALUMINUM ALLOY, TYPE V WIDE DISTRIBUTION	3.6m POLE	LED DRIVER, 6000 LUMENS	4000K	70+	120V	54W	0-10V DIMMING	LUMEC MPTC POST TOP SERIES OR EQUIVALENT (SEE SPECIFICATIONS ON DRAWING E04)

NOTES:
1. THE PRODUCT SPECIFICATIONS LISTED ABOVE REPRESENT THE BASIC CATALOG NUMBER INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL NECESSARY SUPPORTS FITTINGS, TRIMS, HOUSINGS, CANOPIES, ETC TO MAKE A COMPLETE LIGHTING ASSEMBLY. REFER TO INTERIOR DESIGNER DRAWING FOR ADDITIONAL INFORMATION.
2. FINISHES OF ALL FIXTURES, TRIMS, HOUSINGS, ETC. SHALL BE CONFIRMED BY THE DESIGN TEAM DURING THE SHOP DRAWING PHASE.



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Revision or Issue			

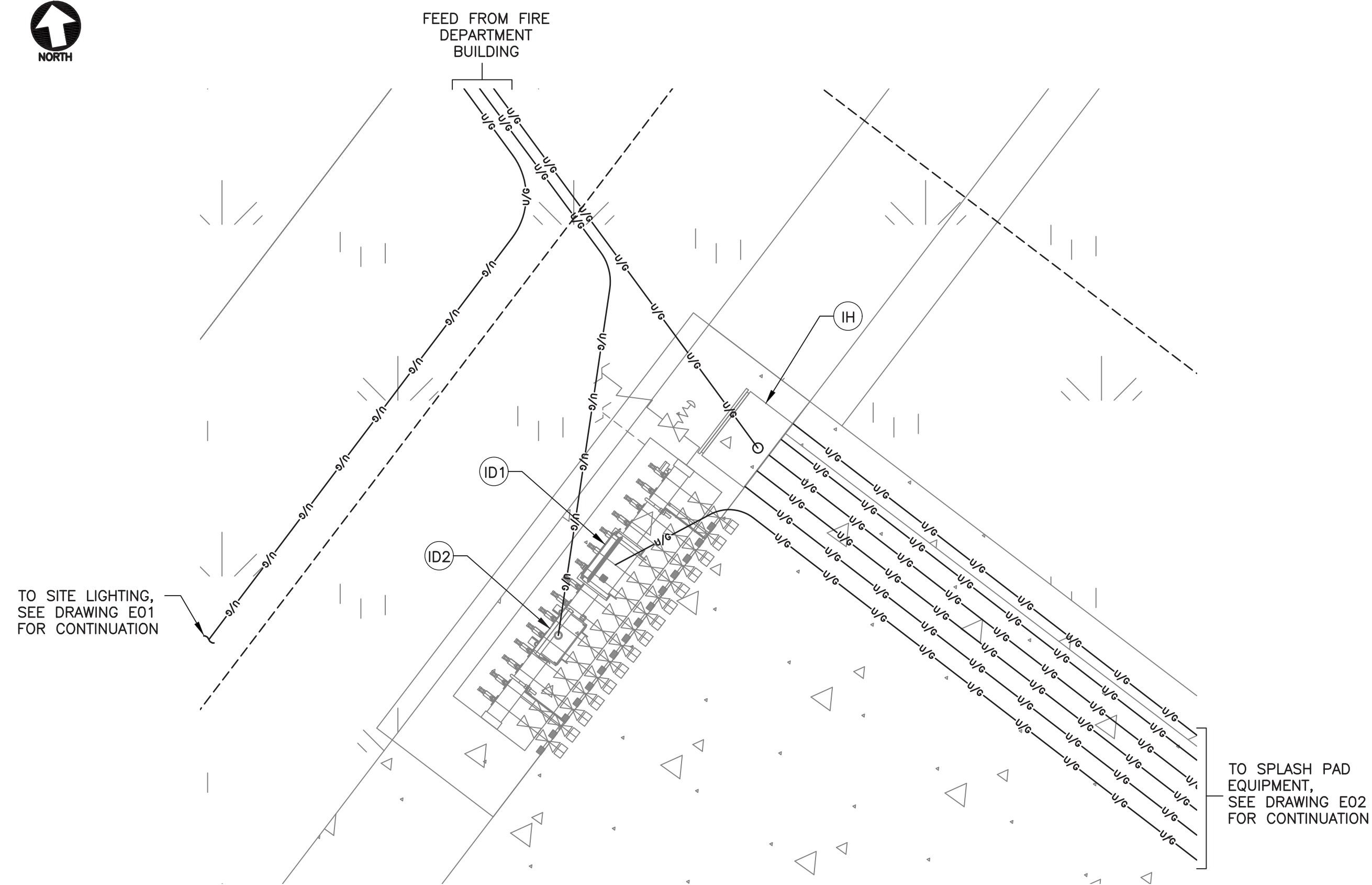
THE TOWN OF IROQUOIS FALLS

DEVONSHIRE PARK SPLASHPAD

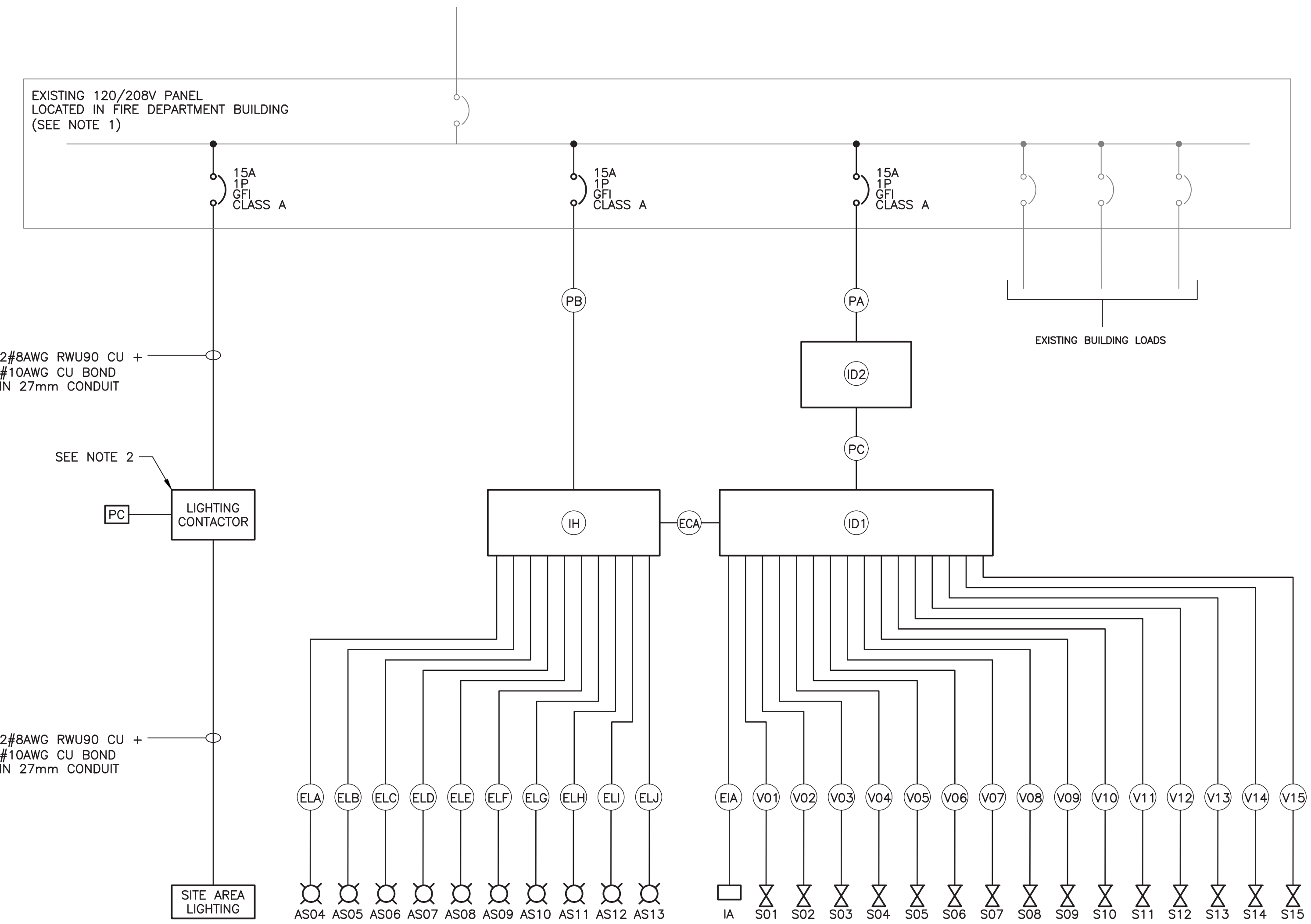
ELECTRICAL
SPLASH PAD ELECTRICAL LAYOUT AND DETAILS



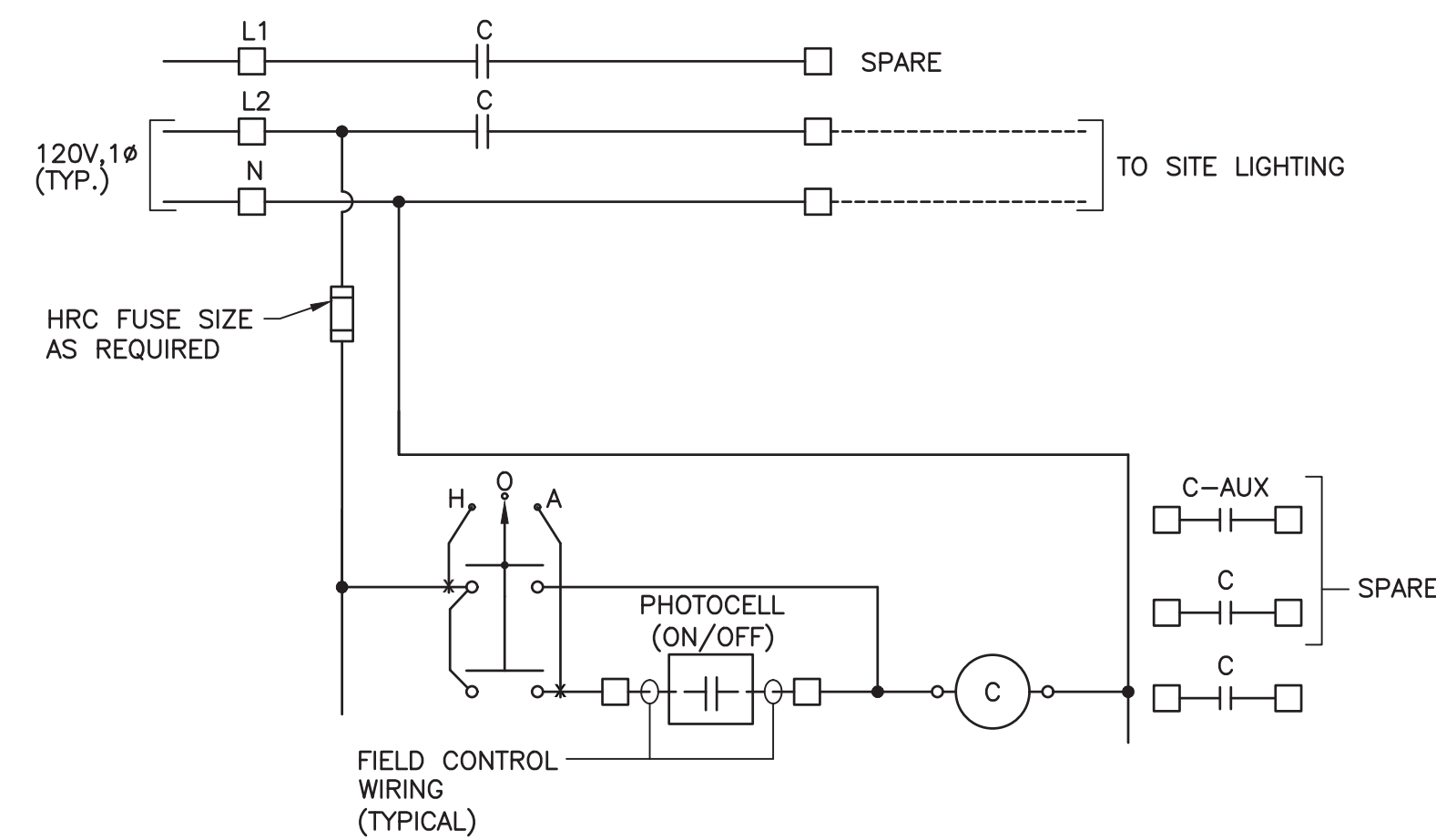
Contract No.	263241.00
Date	MAY/26
Scale	AS NOTED
Designed	MRM
Drawn	MLB
Checked	RR
Approved	DB
Sheet No.	2 of 4
Drawing No.	E02



1 ENLARGED PLAN—ELECTRICAL LAYOUT
1:20



3 PARTIAL SINGLE LINE DIAGRAM
N.T.S.



2 SCHEMATIC—SITE LIGHTING CONTACTOR
N.T.S. SEE NOTE 2

WATER FEATURE EQUIPMENT LIST	
TAG	DESCRIPTION
ID1	MAESTROPRO CONTROLLER
ID2	MAESTROPRO POWER BOX
IH	LUMIFLOW POWER PACK
S01	ELECTRICALLY OPERATED VALVE NO. 1
S02	ELECTRICALLY OPERATED VALVE NO. 2
S03	ELECTRICALLY OPERATED VALVE NO. 3
S04	ELECTRICALLY OPERATED VALVE NO. 4
S05	ELECTRICALLY OPERATED VALVE NO. 5
S06	ELECTRICALLY OPERATED VALVE NO. 6
S07	ELECTRICALLY OPERATED VALVE NO. 7
S08	ELECTRICALLY OPERATED VALVE NO. 8
S09	ELECTRICALLY OPERATED VALVE NO. 9
S10	ELECTRICALLY OPERATED VALVE NO. 10
S11	ELECTRICALLY OPERATED VALVE NO. 11
S12	ELECTRICALLY OPERATED VALVE NO. 12
S13	ELECTRICALLY OPERATED VALVE NO. 13
S14	ELECTRICALLY OPERATED VALVE NO. 14
S15	ELECTRICALLY OPERATED VALVE NO. 15
IA	ACTIVATOR
AS04	LED LIGHT NO. 1
AS05	LED LIGHT NO. 2
AS06	LED LIGHT NO. 3
AS07	LED LIGHT NO. 4
AS08	LED LIGHT NO. 5
AS09	LED LIGHT NO. 6
AS10	LED LIGHT NO. 7
AS11	LED LIGHT NO. 8
AS12	LED LIGHT NO. 9
AS13	LED LIGHT NO. 10

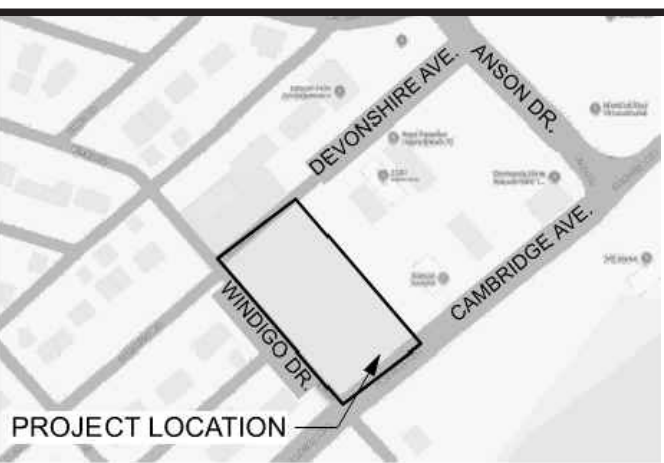
NOTES
1. CONFIRM FINAL EQUIPMENT LIST WITH EQUIPMENT SHOP DRAWINGS

WATER FEATURE CABLE SCHEDULE			
TAG	FROM	TO	TYPE
PA	PANEL	ID2	2-#10AWG+#12AWG BOND RW90 IN 27mm CONDUIT
PB	PANEL	IH	2-#12AWG+#12AWG BOND RW90 IN 27mm CONDUIT
PC	ID1	ID1	2-#12AWG+#12AWG BOND RW90 IN 21mm CONDUIT
V01	ID1	S01	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V02	ID1	S02	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V03	ID1	S03	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V04	ID1	S04	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V05	ID1	S05	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V06	ID1	S06	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V07	ID1	S07	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V08	ID1	S08	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V09	ID1	S09	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V10	ID1	S10	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V11	ID1	S11	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V12	ID1	S12	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V13	ID1	S13	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V14	ID1	S14	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
V15	ID1	S15	LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED (WITHIN CABINET)
EIA	ID1	IA	2C-22AWG + #12AWG BOND IN 16mm CONDUIT
ECA	ID1	IH	CAT5 + #12AWG BOND IN 21mm CONDUIT
ELA	IH	AS04	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELB	IH	AS05	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELC	IH	AS06	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELD	IH	AS07	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELE	IH	AS08	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELF	IH	AS09	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELG	IH	AS10	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELH	IH	AS11	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELI	IH	AS12	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT
ELJ	IH	AS13	2-#12AWG + 2C-22AWG(TWISTED/SHEILED) + #18AWG BOND IN 16mm CONDUIT

NOTES
1. COORDINATE FINAL WIRING TYPES AND CONNECTIONS WITH FINAL EQUIPMENT SHOP DRAWINGS

NOTES:

- THE OWNER IS PROVIDING THREE (3) CIRCUITS FROM AN EXISTING PANELBOARD AND PROVIDING CONDUIT STUBS AT FIRE DEPARTMENT BUILDING. COORDINATE TIE-INS WITH THE OWNER AND PROVIDE ALL WIRING, CONDUIT, CONNECTIONS, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- PROVIDE EXTERIOR PHOTOCELL AND LIGHTING CONTACTOR IN FIRE DEPARTMENT BUILDING FOR EXTERIOR LIGHTING CONTROL. COORDINATE EXACT MOUNTING LOCATIONS WITH OWNER.



PROJECT LOCATION N.T.S.

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0	ISSUED FOR TENDER	2026.06.17	JD

Revision or Issue

THE TOWN OF IROQUOIS FALLS

DEVONSHIRE PARK SPLASHPAD

ELECTRICAL
ENLARGED PLAN, PARTIAL
SINGLE LINE DIAGRAM,
DETAILS AND SCHEDULES



600-77 WESTMORLAND ST
FREDERICTON NB E1B 6E3

Contract No	Scale
263241.00	AS NOTED
Date	Drawn
MAY/26	MLB
Designed	Approved
MRM	RR
Checked	DB
Sheet No	
3	of 4
Drawing No	
E03	

ELECTRICAL SCOPE

- 1 GENERAL:
- THE SCOPE OF THE ELECTRICAL WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THE SUPPLY, INSTALLATION AND PLACING INTO SERVICE OF THE WORK DESCRIBED ON THE DRAWINGS AND SPECIFICATIONS.
 - ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE TO BE READ IN CONJUNCTION WITH THOSE OF OTHER TRADES.
 - ELECTRICAL CONTRACTOR SHALL REVIEW WORK DESCRIBED IN OTHER TRADE PACKAGES AND IDENTIFY AND INCLUDE ALL ELECTRICAL INTERCONNECTIONS TO EQUIPMENT PROVIDED BY OTHERS.
 - PROVIDE ALL LABOUR, MATERIALS, EQUIPMENT, HARDWARE, TOOLS AND CONSUMABLES AS REQUIRED, DELIVERING A COMPLETE, FUNCTIONAL AND SAFE ELECTRICAL INSTALLATION.
 - PLAN, SCHEDULE AND PERFORM WORK IN CO-OPERATION WITH OTHER TRADES.
 - ALL EQUIPMENT, MATERIAL AND HARDWARE SHALL BE NEW AND APPROVED FOR THE PURPOSE BY A CANADIAN STANDARDS COUNCIL ACCREDITED AGENCY.
 - GIVE ALL NOTICES, OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS AS REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION.
 - ELECTRICAL INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO ELECTRICAL SAFETY CODE 2024, THE ONTARIO BUILDING CODE 2024 AND THE AUTHORITY HAVING JURISDICTION.
 - PROVIDE ALL LABOUR, TOOLS, INSTRUMENTS AND CONSUMABLES REQUIRED TO PERFORM THE TESTING, COMMISSIONING AND PLACING INTO SERVICE OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS INCLUDING THE ELECTRICAL PORTIONS OF SYSTEMS PROVIDED BY OTHERS.
 - MAINTAIN ON SITE DRAWINGS ANNOTATED TO INDICATE ALL DEVIATIONS FROM THE CONSTRUCTION DRAWINGS. AT THE COMPLETION OF THE WORK, NEATLY TRANSFER THE INFORMATION TO ANOTHER SET OF DRAWING AND STAMP AS "AS BUILT", ONE SET OF "AS BUILT" DRAWINGS IN OWNER'S MANUAL AND TWO (2) SETS TO THE OWNER.
 - PROVIDE WARRANTY FOR WORKMANSHIP AND MATERIALS.
 - RELOCATE ANY NEW DEVICE UP TO 3m AT NO ADDITIONAL COST OR CREDIT PROVIDED THE INFORMATION IS PROVIDED PRIOR TO INSTALLATION.

WIRING METHODS

- 1 CONDUCTORS AND CABLING:
- ALL CONDUCTORS TO BE ELECTRICAL GRADE COPPER, STRANDED FOR #12AWG SIZES AND LARGER.
 - INSULATION TO BE RW90 XLPE 600 V WITHOUT JACKET UNLESS OTHERWISE NOTED.
 - ACCEPTABLE WIRING TYPES:
 - BUILDING WIRE MINIMUM SIZE #12AWG.
 - BARE CONDUCTOR FOR GROUNDING.
 - LV MULTI-CONDUCTOR CONTROL CABLE, #18AWG, PVC INSULATED, PVC JACKETED.
- 2 RACEWAYS:
- ACCEPTABLE RACEWAY TYPES:
 - ELECTRICAL METALLIC TUBING (EMT), MINIMUM 21mm DIAMETER UNLESS OTHERWISE NOTED.
 - LIQUID TIGHT FLEXIBLE METAL CONDUIT, MINIMUM 21mm DIAMETER UNLESS OTHERWISE NOTED.
 - RIGID (RPVC) CONDUIT, MINIMUM 21mm DIAMETER UNLESS OTHERWISE NOTED.
 - PROVIDE APPROPRIATE FITTINGS: COUPLINGS, BUSHINGS, ACCESSORIES AND SUPPORTS FOR EACH RACEWAY SYSTEM AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION.
- 3 INSTALLATION:
- INSTALL CABLING AND RACEWAYS IN A NEAT AND PROFESSIONAL MANNER SO AS TO CONSERVE HEADROOM AND NOT INTERFERE WITH WORK OF OTHER TRADES.
 - USE BUILDING WIRE IN CONDUIT SYSTEMS UNLESS OTHERWISE NOTED.
 - USE LV CABLING BETWEEN VALVES AND CONTROLLER.
 - WHERE PRACTICABLE, ALL WIRING IS TO BE CONCEALED.
 - INSTALL ABOVE GRADE WIRING PARALLEL OR PERPENDICULAR TO BUILDING STRUCTURE.
 - USE EMT FOR ALL IN-BUILDING WIRING UNLESS OTHERWISE NOTED.
 - USE STEEL FITTINGS AND COUPLINGS ON EMT. DIE CAST FITTINGS NOT ACCEPTABLE.
 - INSTALL BONDING CONDUCTOR IN ALL RACEWAYS.
 - USE RAIN TIGHT CONNECTORS AND COUPLINGS ON ALL VERTICAL RUNS OF EXPOSED CONDUIT.
 - USE LIQUID TIGHT FLEX FOR ALL ABOVE GROUND EXTERIOR APPLICATIONS.
 - USE RPVC CONDUIT FOR UNDERGROUND APPLICATIONS.

GROUNDING AND BONDING

- 1 GENERAL:
- PROVIDE ALL GROUNDING AND BONDING CONNECTIONS IN ACCORDANCE WITH OESC SECTION 68, THE EQUIPMENT MANUFACTURER'S SHOP DRAWINGS AND THE AUTHORITY HAVING JURISDICTION.
 - PREPARE GROUNDING/BONDING CONNECTIONS (CONDUCTOR TO CONDUCTOR AND CONDUCTOR TO REINFORCING STEEL) IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. UNDERGROUND AND CAST-IN CONNECTIONS/PRODUCTS SHALL BE RATED FOR THESE APPLICATIONS.

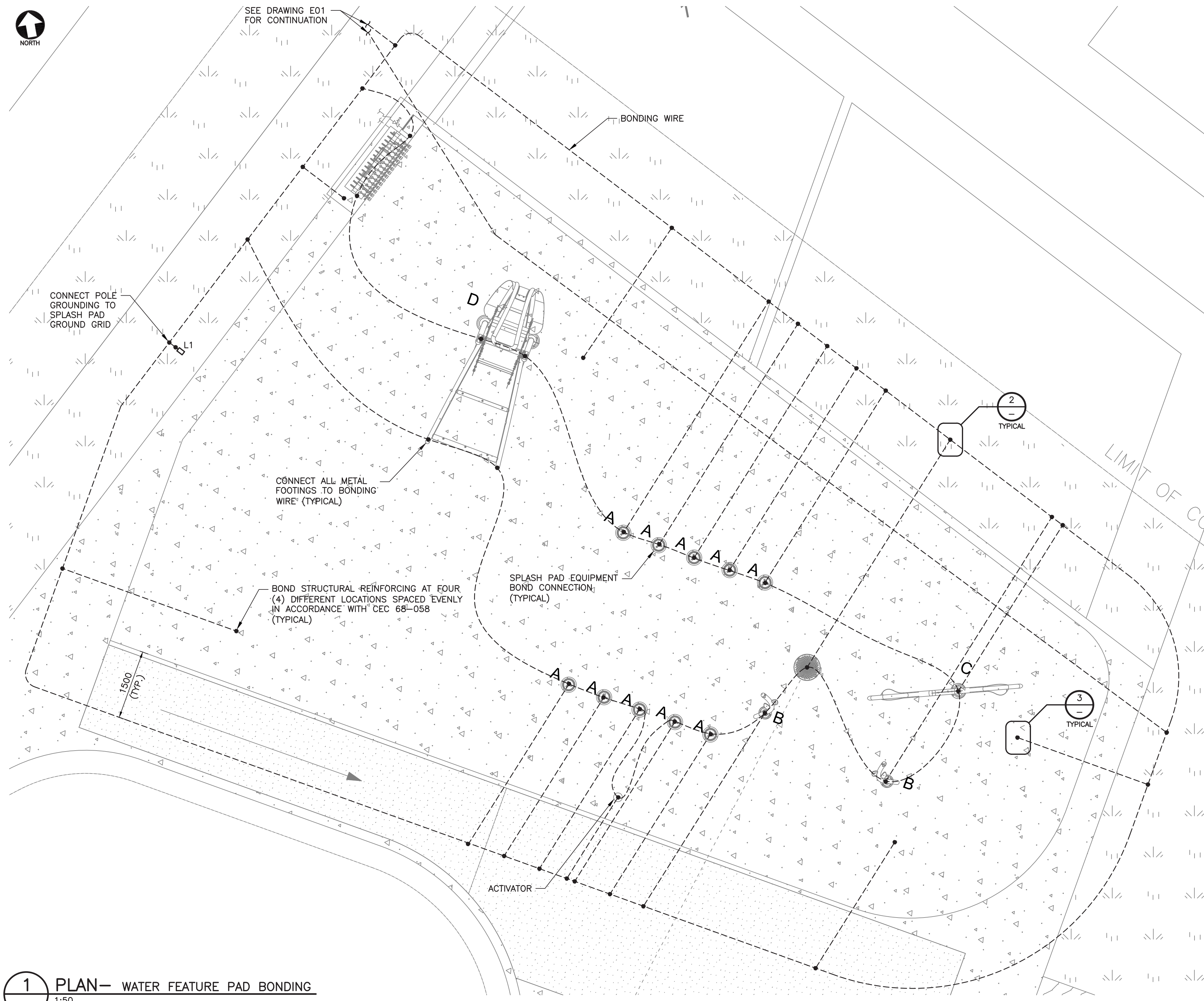
LIGHTING EQUIPMENT

- 1 GENERAL:
- ALL MATERIAL, ACCESSORIES AND OTHER RELATED LUMINAIRE PARTS TO BE NEW AND FREE FROM DEFECTS THAT IN ANY WAY MAY IMPAIR THEIR CHARACTER, APPEARANCE, STRENGTH, DURABILITY AND PERFORMANCE OR THE PERFORMANCE OF THE ASSEMBLED FIXTURE.
 - PHOTOMETRIC TESTING TO COMPLY WITH IES LM79 AND TM30
 - RATED LIFE AND LONG TERM LUMEN MAINTENANCE TO BE IN ACCORDANCE WITH IES LMS0 AND TM21
 - LED DRIVERS TO HAVE BUILT-IN SURGE PROTECTION TO IEEE/ANSI C82.77-5
 - UNLESS OTHERWISE INDICATED, ALL LED DRIVERS TO BE 0-10V DIMMABLE TO 10%.
 - LED DRIVERS TO HAVE A POWER FACTOR GREATER THAN 0.9
- 2 LUMINAIRES:
- REFER TO LIGHTING FIXTURE SCHEDULE.
- 3 STEEL POLES:
- STEEL POLES: TO CSA C22.2 No. 206, CSA S6 AND CSA S16 SPECIFICATION.
 - DESIGNED FOR BOTTOM CONDUIT ENTRY.
 - MOUNTING ON CONCRETE FOUNDATION.
 - STYLE: ROUND, STRAIGHT ALUMINUM.
 - SUITABLE FOR DOUBLE LUMINAIRE CONFIGURATION AT 1.5 INSTALLED WEIGHT AND EPA.
 - GASKETED ACCESS HANDHOLE 450mm ABOVE THE POLE BASE FOR WIRING CONNECTIONS, WITH WELDED-ON REINFORCING FRAME AND BOLTED-ON COVER.
 - HEIGHT: 3.6m.
 - LOCAL WIND SPEED, PRESSURES AND CLIMATIC CONDITIONS FOR NORTHERN ONTARIO ARE TO BE CONSIDERED WHEN CALCULATING GRADE OF POLE AND CONSIDERING FIXTURE EPA'S.
 - GALVANIZED STEEL ANCHOR BOLTS: AS PER MANUFACTURER'S RECOMMENDATION WITH SHIMS, NUTS AND COVERS.
 - FINISH: POLYESTER POWDER COAT, COLOUR TO MATCH LUMINAIRE.
 - TREATMENT: ALL POLES TO BE HOT DIPPED GALVANIZED BEFORE APPLICATION OF FINISH. PAINTED ONLY POLES WILL NOT BE ACCEPTED.
 - GROUNDING LUG.

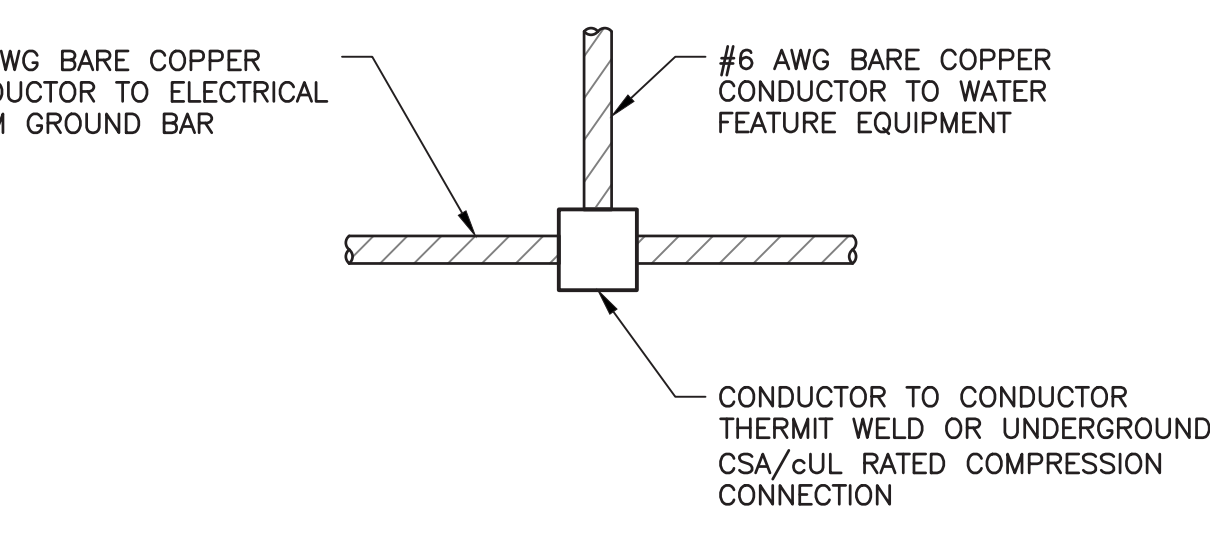
- 4 INSTALLATION:
- INSTALL FIXTURE AT MOUNTING HEIGHTS AS INDICATED ON THE DRAWINGS.
 - CONNECT TO CIRCUITS AND CONTROLS AS INDICATED.
 - SUCCESSFULLY DEMONSTRATE LIGHTING CONTROLS.
 - INSTALL POLES ON CONCRETE BASES AS DETAILED.
 - ENSURE POLES ARE SECURED, LEVEL, PLUMB AND TRUE.

EXTERIOR LIGHTING CONTROL

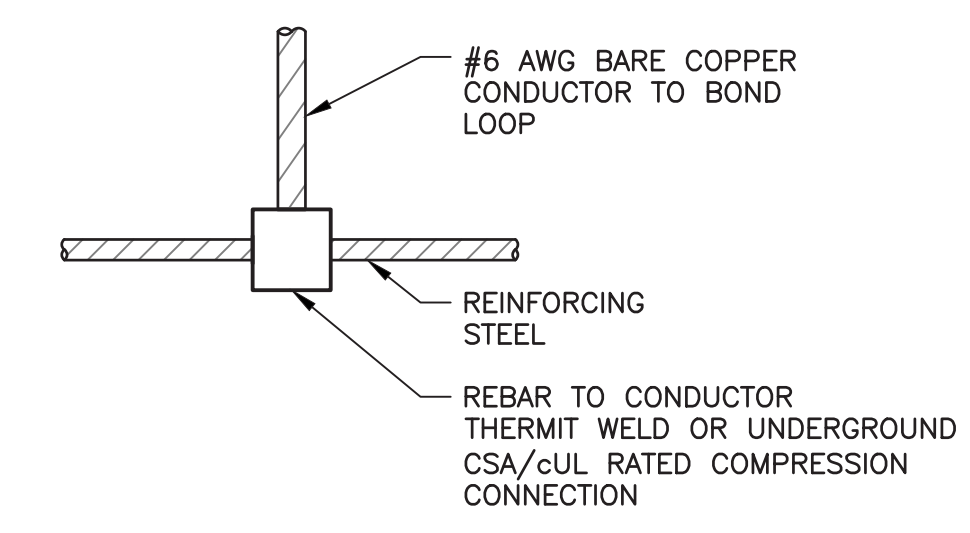
1. GENERAL:
- PHOTOCELL:
 - 120V OPERATION
 - OUTDOOR RATED C/W GLARE SHIELD WITH SETPOINTS FOR DUSK-DAWN OPERATION
 - LIGHTING CONTACTOR:
 - 30A, 120V, 2P CONTACTOR
 - INPUT FOR PHOTOCELL
 - HAND-OFF-AUTO (HOA) OPERATION
 - LED INDICATORS FOR POWER AVAILABLE AND LIGHTS ON
 - NEMA 1 ENCLOSURE
2. INSTALLATION:
- INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS
 - CONNECT CIRCUITS TO PHOTOCELL AND CONTACTOR AS INDICATED
 - TEST FOR PROPER INSTALLATION
 - INSTRUCT THE OWNER ON THE PROPER OPERATION OF THE EQUIPMENT



1 PLAN— WATER FEATURE PAD BONDING
1:50



2 DETAIL— CONDUCTOR TO CONDUCTOR GROUND/BOND CONNECTION
N.T.S. SEE NOTE 1



3 DETAIL— REBAR TO CONDUCTOR GROUND/BOND CONNECTION
N.T.S. SEE NOTE 1

SPRAY NOZZLE SCHEDULE

A	COREPLAY SUNSET WITH INTEGRAL LED LUMINAIRE
B	SEAWEED No. 3 - NO ELECTRICAL CONNECTION
C	SEA SILHOUETTE TURTLE - NO ELECTRICAL CONNECTION
D	SUPERWAVE - NO ELECTRICAL CONNECTION

NOTES:

- RUN AND CONNECT SPLASH PAD BONDING CONDUCTORS TO FIRE DEPARTMENT BUILDING MAIN SERVICE GROUND. COORDINATE INSTALLATION WITH OWNER AND AHJ.

PROJECT LOCATION

KEY PLAN N.T.S.

trace
NATURAL ENVIRONMENTS | BUILT ENVIRONMENTS

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No.	Description	Date	By
0	ISSUED FOR TENDER	2026.06.17	JDB
Revision or Issue			

THE TOWN OF IROQUOIS FALLS

DEVONSHIRE PARK SPLASHPAD

ELECTRICAL
WATER FEATURE PAD BONDING, SPECIFICATIONS AND DETAILS



Contract No.	263241.00
Date	MAY/26
Scale	AS NOTED
Designed	MRM
Drawn	MLB
Checked	RR
Approved	DB
Sheet No.	4 of 4
Drawing No.	E04